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Abstract

This report discusses higher education in the State of Virginia as it relates to some economic and social factors, and maps the distribution of colleges and universities in the state. A 2% standard, based on the fact that Virginia has 2.2% of the total national population, is used to measure the state's relationship to the US as a whole. In areas of taxation and financial support for schools and colleges, Virginia is significantly below the 2% standard. Its performance in education, which should approximate 2% of national performance, is much lower. The median number of school years completed by the average adult Virginian in 1960 was 9.9, compared to a national average of 10.6; variations among state counties range from 6.5 to 12.8 years of schooling. In 1964, institutions of higher education in Virginia had only 1.54% of all students enrolled in the US. Degree production is low. The greatest deficiency is at the graduate level, where production is less than 1% of national totals, and the rate of increase is slow. Accredited colleges and universities are not well distributed geographically to serve the various local areas of the state. The programs and locations of these institutions are analyzed and the state-wide patterns for various kinds of higher education services are displayed in a series of 62 maps. A projection of enrollment trends suggests that by 1980, the college-age population in Virginia may more than double current totals. (WM)

The following Staff Reports are published as a part of the Study of Higher Education in Virginia. Copies of the Reports may be requested from the State Council of Higher Education for Virginia, 10th Floor, Life Insurance Company of Virginia Building, 914 Capital Street, Richmond, Virginia, 23219

- #1. Prospective College-age Population in Virginia, by Subregion
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Staff Report # 2

STATE-WIDE PATTERN OF HIGHER EDUCATION IN VIRGINIA

By James R. Connor, Associate Director
Higher Education Study Commission

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RICHMOND, VIRGINIA

1965

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FOREWORD

The Virginia General Assembly in 1964, under Senate Joint Resolution 30, authorized the Governor to appoint a Commission on Higher Education, and directed the Commission "... to undertake a comprehensive study and review of higher education, to be used as a basis for effective long-range planning as to objectives, needs, and resources of public and private higher education in the Commonwealth of Virginia." The members appointed to the Commission are listed on the title page of this volume. The Commission selected a staff for carrying on the Study and approved an outline of the topics to be covered. Several of these topics required the collection and interpretation of extensive data; the detailed analyses of the problems led, in many cases, to suggestions for their solution. The results of these detailed studies, prepared by staff members and Consultants are published as Staff Reports, to make the information generally available.

Staff Report #2, published herewith, presents information about the state-wide pattern of higher education in Virginia. It is concerned first with the population and economic factors affecting higher education in Virginia. Virginia's performance in education, both in its public school system and more particularly at the level of higher education, is examined against the background of these population and economic data. The Report presents an intensive analysis of the number of academic degrees granted by the Virginia colleges and universities, pointing out the academic subjects in which degree production departs either positively or negatively from what might reasonably be expected in Virginia. Complications encountered by the

Staff in defining precisely the institutions through which Virginia is served in higher education are described. The programs and locations of these institutions are analyzed and the state-wide patterns for various kinds of service in higher education are displayed in a series of maps. A projection is made of probable future college enrollment trends, up to 1980. A brief summary of the findings is presented at the end of the Report.

Information of the kind presented in Staff Report #2 should be useful in providing an overview of the general situation of higher education in Virginia, prior to the more intensive analyses that the Study will make of the various features of the facilities and services of the institutions. Staff Report #2 is intended to be factual, and it does not present specific recommendations for action.

Staff Report #2 has been prepared by Dr. James R. Connor, Associate Director of the Study of Higher Education in Virginia. He has drawn his data from a wide variety of sources. The cooperation of several state agencies and of the educational institutions of Virginia, both the state and the privately controlled, is gratefully acknowledged.

The text of Staff Report #2 presents only the findings and interpretations of the author, Dr. Connor. The Report has been reviewed by the Higher Education Study Commission but the release of the Report does not imply an endorsement by the Commission of any suggestions and recommendations herein contained.

John Dale Russell
Director of the Study

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STATE-WIDE PATTERN OF HIGHER EDUCATION IN VIRGINIA

In the outline approved by the Higher Education Study Commission as a guide to its agenda, the first major topic is "The State-wide Pattern of Higher Education in Virginia." Clearly, before an attempt is made to deal with specific problems, it is wise to get a general overview of the service the Commonwealth provides in higher education. The purpose of Staff Report #2 is to present the information for such an overview, including evidence concerning Virginia's current performance in higher education, the pattern of institutions through which this level of education is provided in the Commonwealth, and a projection of future demands in terms of numbers of students who will probably have to be accommodated.

Virginia's Status on Population and Economic Factors

The services in higher education which a state provides must bear some relation to its population and economic status. It is therefore first necessary to present facts about the population and economic factors that affect higher education in Virginia. The approach utilized in this Report is to compare the record of the Commonwealth in these fields against the percentage of the nation's population which lived within Virginia in 1960, along with the various indices of economic development which are available for the State.

Table 1 shows Virginia's relation to the United States as a whole in certain factors related to population and economic status. The United States Census of Population for 1960 showed a total for the nation as a whole of 179,323,175, with the population for Virginia of 3,966,949. Thus in 1960

Table 1. VIRGINIA'S RELATION TO THE UNITED STATES AS A WHOLE ON CERTAIN FACTORS
RELATED TO POPULATION AND ECONOMIC STATUS

| Factor | Year | Total for United States | Virginia | Virginia's Percentage of Total U.S.A. |
|---|------|-------------------------------|-----------------|---|
| Total Population ^a | 1960 | 179,323,175 | 3,966,949 | 2.21 |
| Estimated Total Population ^b | 1964 | 191,334,000 | 4,378,000 | 2.29 |
| Estimated Total Births ^c | 1963 | 4,081,000 | 92,060 | 2.26 |
| College-age (18-21) Population | 1960 | 9,212,608 | 216,880 | 2.35 |
| Total Personal Income ^e | 1962 | \$439,661,000,000 | \$8,428,000,000 | 1.92 |
| Value of Construction ^f Contracts | 1963 | \$ 45,546,000,000 | \$1,167,000,000 | 2.56 |
| Number of Housing Units ^g | 1960 | 58,326,000 | 1,169,000 | 2.00 |
| Housing Units with One or More TV Sets ^h | 1960 | 46,312,000 | 886,000 | 1.91 |
| Housing Units with One or More Telephones ⁱ | 1960 | 41,618,000 | 744,000 | 1.79 |
| Housing Units with One or More Radios ^j | 1960 | 48,504,000 | 911,000 | 1.88 |
| Housing Units with Air- Conditioning ^k | 1960 | 6,584,000 | 131,000 | 1.99 |
| Motor Vehicle Registrations ^l | 1960 | 82,692,000 | 1,646,000 | 1.99 |
| Sales of Retail Establish- ments ^m | 1958 | \$200,365,000,000 | \$3,721,000,000 | 1.86 |

^a U. S. Bureau of the Census, 1960 Census of Population, Washington, D. C., 1960.

^b Southern Regional Education Board, Fact Book on Higher Education in the South, 1965, Atlanta, 1965, p. 8.

^c U. S. Department of Commerce, Statistical Abstract of the United States, 1964, Washington, D. C., 1964, p. 49.

^d Southern Regional Education Board, Op. cit., p. 12.

^e U. S. Department of Commerce, op. cit., p. 329.

^f Ibid., p. 746

^g Ibid., p. 756

^h Ibid., p. 756

ⁱ Ibid., p. 756

^j Ibid., p. 756

^k Ibid., p. 756

^l Ibid., p. 566

^m Ibid., p. 822

2.21 per cent of the total United States population lived in Virginia.

Estimates by the Bureau of the Census since 1960 show that Virginia's percentage of the total population increased to 2.29 per cent in 1964, indicating that the growth of the Old Dominion has been at a higher rate than the national average. Virginia's percentage of the total births in 1963 and also its proportion of college-age (18-21) population in 1960 were both higher than its percentage of total population in 1960.

In the factors related to economic status, Virginia's share of the national total in each item shown in Table 1, with the exception of the value of construction contracts in 1963, was slightly less than 2 per cent. In personal income, Virginia's share of total national income was 1.92 per cent in 1962 (up from 1.74 per cent in 1960), while per capita income in 1963 for Virginians was \$2,057 against a national average of \$2,449.¹ Per capita income for Virginians was thus only 84 per cent of that for the United States as a whole, and Virginia's rank order in 1963 was 34th among the 50 States.² However, Virginia was 2nd after Florida in this category for States of the former Confederacy.

In four categories - number of housing units, housing units having one or more television sets, housing units with air conditioning, and motor vehicle registrations - Virginia had up to or close to 2 per cent of the national total. In sales of retail establishments and in housing units with one or more radios and one or more telephones, the Commonwealth had somewhat below 2 per cent of the national total.

¹ Southern Regional Education Board, Fact Book on Higher Education, 1965, Atlanta, 1965, p. 11.

² Virginia Education Association, Where Virginia Ranks, 1965, Richmond, 1965, p. 11.

The general conclusion which can be drawn from Table 1 is that in its population indices Virginia has a little more than 2 per cent of the national figures, while in economic factors it has slightly less than 2 per cent of national totals. In combining these factors as a measure against which to test Virginia's performance in higher education, one might logically expect that the Commonwealth would approximate 2 per cent of the national total in educational performance.

While its population and economic indices indicate that Virginia should be approximating 2 per cent of the total for the United States as a whole, Table 2 shows that in the area of governmental revenues and taxation the Commonwealth is significantly below the 2 per cent figure. Only in payments by the Federal Government to State and local governments in 1962 did Virginia come close to the 2 per cent standard. Table 2 shows that tax burdens borne by Virginians are relatively less, in terms of population and economic indices, than the average for the United States.

There are some other general factors which may also be included at this point, before an examination of educational activity is undertaken. In the area of specialized personnel, figures are available which show Virginia's ranking as compared with national averages. For the United States as a whole in 1962, there was an average of 144 medical physicians for each 100,000 population. Virginia had only 107, or 37 fewer physicians per 100,000 population than the national average. The national average for dentists per 100,000 population in 1962 was 56 while Virginia showed only 38.³ For pharmacists in 1962, the national ratio was 69.4 per 100,000

3 U. S. Department of Commerce, Statistical Abstract of the United States 1964, Washington, D. C., 1964, p. 69.

Table 2. VIRGINIA'S RELATION TO THE UNITED STATES AS A WHOLE ON FACTORS RELATED TO GOVERNMENTAL REVENUES AND TAXATION^a

| Factor | Year | United States as a Whole | Virginia | Virginia's Percentage of Total U.S.A. |
|---|------|-----------------------------|---------------|---|
| Total General Revenues of State & Local Governments | 1962 | \$58,214,000,000 | \$944,000,000 | 1.62 |
| All Tax Collections of State and Local Governments | 1962 | \$41,524,000,000 | \$623,182,000 | 1.50 |
| Total Collections of Property Taxes | 1962 | \$19,056,000,000 | \$224,252,000 | 1.18 |
| Other Taxes Collected by State & Local Governments | 1962 | \$22,468,000,000 | \$398,887,000 | 1.78 |
| Payments by Federal Govern- ment to State and Local Governments | 1962 | \$ 7,857,000,000 | \$154,000,000 | 1.96 |

^a Computed from Tables 8 and 561 in U. S. Department of Commerce, Statistical Abstract of the United States, 1964, Washington, D. C., 1964, pp. 11 and 423.

population while Virginia's was 45.9.⁴ According to a 1964 survey, the Old Dominion had 3,741 scientists of 223,854 reporting; this was only 1.67 per cent of the total, significantly below the 2 per cent which might be expected.⁵

Some Measures of Virginia's Educational Performance

The statistical data presented in Tables 1 and 2 are included in this Staff Report for the value they may have in viewing educational performance of the Commonwealth of Virginia against the perspective of nation-wide economic and social factors. Attention is next directed to the specific area of education and factors reflecting educational attainment.

One of the first questions which may well be asked relates to the completion of formal education by residents of Virginia. The Bureau of the Census reported the median school years completed by persons 25 years old and older for each County and Independent City in Virginia in 1960. These data are summarized in Table 3.

The median school years completed by persons 25 years old and older for the entire Commonwealth in 1960 was 9.9 years. The average for other states ranged from a high of 12.2 years in Utah to a low of 8.7 years for Kentucky and South Carolina.⁶ The average for the entire United States was 10.6 years of school; thus the average adult Virginian lacked more than half a year of having as much schooling as the average citizen of the United States.

4 Virginia Council on Health and Medical Care, "Information Relating to Health Professions," Richmond, 1964, p.5.

5 National Science Foundation, Salaries and Professional Characteristics of U. S. Scientists, 1964, Washington, D. C., 1964, p. 4.

6 National Education Association, Rankings of the States, 1964, Washington, D. C., 1964, p. 25.

Table 3. MEDIAN SCHOOL YEARS COMPLETED BY PERSONS 25 YEARS OLD AND OLDER
IN 1960 BY COUNTIES AND INDEPENDENT CITIES
OF VIRGINIA^a

| County | Median | County | Median |
|--------------|--------|----------------|--------|
| Accomack | 7.9 | Franklin | 7.5 |
| Albemarle | 9.7 | Frederick | 8.3 |
| Alleghany | 8.4 | Giles | 8.8 |
| Amelia | 7.5 | Gloucester | 8.3 |
| Amherst | 7.6 | Goochland | 7.5 |
| Appomattox | 8.0 | Grayson | 7.5 |
| Arlington | 12.8 | Greene | 7.3 |
| Augusta | 8.7 | Greensville | 7.0 |
| Bath | 8.5 | Halifax | 7.5 |
| Bedford | 7.9 | Hanover | 9.4 |
| Bland | 7.8 | Henrico | 12.1 |
| Botetourt | 8.5 | Henry | 7.5 |
| Brunswick | 7.4 | Highland | 8.2 |
| Buchanan | 6.5 | Isle of Wight | 7.8 |
| Buckingham | 7.5 | James City | 9.9 |
| Campbell | 8.3 | King and Queen | 7.5 |
| Caroline | 7.8 | King George | 9.1 |
| Carroll | 7.4 | King William | 8.2 |
| Charles City | 7.6 | Lancaster | 8.6 |
| Charlotte | 7.4 | Lee | 7.0 |
| Chesterfield | 11.0 | Loudoun | 8.8 |
| Clarke | 8.5 | Louisa | 7.7 |
| Craig | 8.1 | Lunenburg | 7.9 |
| Culpeper | 8.5 | Madison | 7.9 |
| Cumberland | 7.4 | Mathews | 8.8 |
| Dickenson | 7.2 | Mecklenburg | 7.9 |
| Dinwiddie | 7.1 | Middlesex | 8.2 |
| Essex | 8.3 | Montgomery | 8.8 |
| Fairfax | 12.6 | Nansemond | 7.5 |
| Fauquier | 8.5 | Nelson | 7.4 |
| Floyd | 7.5 | New Kent | 8.0 |
| Fluvanna | 7.6 | Norfolk | 9.9 |

Table 3. CONTINUED

| County | Median | Independent City | Median |
|----------------|--------|------------------|--------|
| Northumberland | 8.1 | Alexandria | 12.3 |
| Nottoway | 8.3 | Bristol | 9.2 |
| Orange | 8.5 | Buena Vista | 7.5 |
| Page | 8.1 | Charlottesville | 11.2 |
| Patrick | 7.3 | Clifton Forge | 10.9 |
| Pittsylvania | 7.4 | Colonial Heights | 11.0 |
| Powhatan | 8.2 | Covington | 9.7 |
| Prince Edward | 8.1 | Danville | 8.7 |
| Prince George | 11.6 | Falls Church | 12.8 |
| Prince William | 11.5 | Fredericksburg | 10.4 |
| Princess Anne | 11.9 | Galax | 8.4 |
| Pulaski | 8.2 | Hampton | 11.8 |
| Rappahannock | 7.0 | Harrisonburg | 10.7 |
| Richmond | 7.6 | Hopewell | 10.1 |
| Roanoke | 10.1 | Lynchburg | 10.0 |
| Rockbridge | 8.1 | Martinsville | 9.2 |
| Rockingham | 8.8 | Newport News | 10.7 |
| Russell | 7.3 | Norfolk | 10.8 |
| Scott | 7.5 | Norton | 8.6 |
| Shenandoah | 8.2 | Petersburg | 9.0 |
| Smyth | 7.9 | Portsmouth | 10.0 |
| Southampton | 7.4 | Radford | 10.5 |
| Spotsylvania | 8.0 | Richmond | 10.1 |
| Stafford | 9.1 | Roanoke | 10.5 |
| Surry | 7.5 | South Boston | 9.9 |
| Sussex | 7.3 | South Norfolk | 8.7 |
| Tazewell | 7.8 | Staunton | 10.3 |
| Warren | 8.7 | Suffolk | 9.5 |
| Washington | 8.0 | Virginia Beach | 12.3 |
| Westmoreland | 7.6 | Waynesboro | 11.7 |
| Wise | 7.3 | Williamsburg | 12.2 |
| Wythe | 7.8 | Winchester | 10.0 |
| York | 10.6 | | |
| | | The State | 9.9 |

^a U.S. Bureau of the Census, 1960 Census of Population: Characteristics of the Population, part 48 (Virginia), Washington, D. C., 1961, pp. 48, 141-3.

Table 3 shows wide variations in median school years completed for residents of the Counties and Independent Cities of Virginia. Arlington, Fairfax, and Henrico Counties, and Alexandria, Falls Church, Virginia Beach, and Williamsburg cities all showed a median of over 12 years of school completed for residents 25 years old and older. At the other end of the scale were a large number of largely rural counties with a median of less than 7 years of school completed. Buchanan County had the lowest figure for all counties and cities, with a median of 6.5 years.

Another measure of educational attainment by residents of the 50 States relates to the percentage of the population 14 years and older in 1960 who were illiterate. The average for the nation as a whole in that year was 2.4 per cent. Virginia's percentage was 3.4 per cent. There were wide variations among the States, ranging from Iowa's 0.7 per cent to Louisiana's 6.3 per cent. Virginia was 38th among the 50 states in this category, but 2nd among the eleven Southern States of the Old Confederacy. Only Florida, in the South, with 2.6 per cent of its population 14 years old and older illiterate, had a lower percentage than Virginia in 1960.⁷

Enrollments in educational institutions, financing of schools and colleges, and the number of young persons being graduated have some relevance as measures of educational performance although conclusions based upon statistics in these areas must be reached with some care. Table 4 presents data relating Virginia to the United States as a whole on certain factors of educational performance. It is immediately apparent that the Old Dominion had a higher percentage (2.43 per cent) of the nation's children enrolled in elementary schools than the 2.0 per cent ratio, derived from population

7 Ibid.

Table 4. VIRGINIA'S RELATION TO THE UNITED STATES AS A WHOLE ON CERTAIN FACTORS
RELATED TO EDUCATION

| Factor | Year | Total for United States | Virginia | Virginia's Percentage Total U.S. |
|--|------|-------------------------------|---------------|--|
| Pupils Enrolled in Public Elementary Schools ^a | 1962 | 28,686,000 | 697,000 | 2.43 |
| Pupils Enrolled in Public High Schools ^b | 1962 | 9,568,000 | 203,000 | 2.12 |
| Public High School Graduates ^c | 1962 | 1,678,024 | 33,316 | 1.98 |
| Estimated Current Expenditures for Local Public Schools ^d | 1964 | \$16,895,948,000 | \$303,800,000 | 1.80 |
| Estimated Capital Outlay for Local Public Schools ^e | 1964 | \$ 3,211,735,000 | \$ 65,000,000 | 2.02 |
| College Enrollments ^f | 1964 | 5,320,294 | 81,794 | 1.54 |
| Number of Institutions of Higher Education ^g | | | | |
| State controlled | 1964 | 784 | 12 | 1.53 |
| Privately controlled | 1964 | 1,384 | 36 | 2.60 |
| Total | 1964 | 2,168 | 48 | 2.21 |
| State and Local Funds Spent for Higher Education ^h | 1962 | \$ 4,034,196,000 | \$ 70,092,000 | 1.74 |
| Total Expenditures for Higher Education ⁱ | 1960 | \$ 6,462,483,000 | \$110,501,000 | 1.71 |
| Value of Plant and Plant Funds of Higher Education Institutions ^j | 1960 | \$14,273,350,000 | \$249,278,000 | 1.75 |
| Value of Endowment Funds of Higher Education Institutions ^k | 1960 | \$ 5,443,946,000 | \$ 98,091,000 | 1.80 |
| Income for Current Operations of Higher Education Institutions ^l | 1960 | \$ 5,662,606,000 | \$ 97,472,000 | 1.72 |
| Income for Plant Expansion of Higher Education Institutions ^m | 1960 | \$ 1,277,319,000 | \$ 17,762,000 | 1.39 |

Table 4. CONTINUED.

| Factor | Year | Total for United States | Virginia | Virginia's Percentage of Total U.S.A. |
|---|------|-------------------------|----------|---------------------------------------|
| Number of Bachelor's Degrees Granted ⁿ | 1964 | 502,104 | 8,308 | 1.65 |
| Number of Master's Degrees Granted ⁿ | 1964 | 101,122 | 940 | .93 |
| Number of Doctorate Degrees Granted ⁿ | 1964 | 14,490 | 113 | .78 |

^aU.S. Department of Commerce, Statistical Abstract of the United States, 1964, Washington, D. C., 1964, p. 122.

^bIbid.

^cIbid.

^dOp. cit., p. 124.

^eIbid.

^fOffice of Education, Opening (Fall) Enrollment in Higher Education, 1964, Washington, D. C., 1964, pp. 5 and 76. (Includes both degree-credit and non-credit students.)

^gOffice of Education, Education Directory, 1964-1965, Part 3: Higher Education, Washington, D. C., p. 11, but see discussion on "Virginia's Colleges and Universities" beginning on page 30, below.

^hComputed from Tables 1 and 74, National Education Association, Rankings of the States, 1964, Washington, D.C., 1964, pp. 9 and 45.

ⁱU. S. Department of Commerce, op. cit., p. 135. National totals do not include amounts for service academies or other than fifty states.

^jIbid.

^kIbid.

^lIbid.

^mIbid.

ⁿOffice of Education, Summary Report on Bachelor's and Higher Degrees Conferred during the Year 1963-1964, Washington, D. C., 1964.

and economic data, would suggest, Virginia had the same percentage enrolled in secondary schools (2.12 per cent) as this ratio, but a lower percentage of high school graduates in 1962 (1.98 per cent). The latter figure relating to high school graduates may reflect a higher proportion of high school drop-outs than is the case nationally, or it may be a reflection of proportionately smaller twelfth grade class in the Virginia high schools in 1962 .

That Virginia has a problem with high school drop-outs is suggested by the fact that when estimates of public high school graduates in 1964-65 are compared as a percentage of ninth graders in 1961-62, the national percentage is 73.7 per cent while that for Virginia is 58.6 per cent.³ One must be extremely cautious, however, in interpreting such figures, since factors other than a high rate of drop-outs may be the explanation. Migration of high school student population affects such statistics, and transfers between public and private high schools may also have some impact. The Division of Educational Research of the State Department of Education, however, has been concerned with the problem of secondary school drop-outs, and completed a study of the situation in Virginia in August of 1964. The report which was issued showed that there were 15,170 drop-outs in Grades 8 through 12 during 1962-63, approximately 5.0 per cent of the pupils enrolled in three high school grades.

Table 4 also shows Virginia's performance, as related to the United States as a whole, in several areas involving colleges and universities. In total college enrollments in the Fall of 1964, as reported by the United States Office of Education, the institutions of higher education in Virginia had only 1.54 per cent of all students enrolled, degree-credit and non-degree-credit.

8 Virginia Education Association, op cit, p. 10.

It is significant to note that if the colleges and universities within the Commonwealth had enrolled 2.0 per cent of the nation's students in higher education in the Fall of 1964, this would have meant an increase of 25,000 students, almost the equivalent of the total enrollments at the University of Virginia in Charlottesville, Virginia Polytechnic Institute in Blacksburg, Old Dominion College in Norfolk, and Richmond Professional Institute in Richmond. Another relevant calculation could relate enrollments in Virginia institutions directly to the 2.35 per cent of the nation's college-age (18-21) population living in the Commonwealth as shown in Table 1. If enrollments in Virginia's colleges had equalled this percentage, there would have been an additional 43,000 students in the Fall of 1964, the equivalent of the total enrollments on the main campuses of all four-year, state controlled institutions with the exception of Madison College.

According to the 1964-65 Higher Education Directory of the United States Office of Education, Virginia had a total of 48 institutions of higher education in 1964, 2.21 per cent of the national figure of 2,168 colleges and universities. There were 12 state controlled institutions in Virginia, 1.53 per cent of the national total of 784, while the Commonwealth had 36 privately controlled colleges, 2.60 per cent of the 1,384 in the United States.

State and local expenditures in support of higher education in Virginia in 1962 were \$70,092,000; this was 1.74 per cent of the total of all 50 States and the District of Columbia for 1962. Total expenditures for higher education in Virginia for 1960 were \$110,501,000, or 1.67 per cent of the national total for that year. Calculations from data in Table 4 show that the per capita expenditure by State and local governments in Virginia for higher education in 1962 was \$16.50 against a national average of \$21.71.

Other fiscal data for higher education are also shown in Table 4. In value of college and university property and plant funds, value of endowment funds, income for current operations, and income for plant expansion, Virginia's percentage of the national totals in each area in 1962 was significantly below the ratio of 2.0 per cent.

Summaries of the number of bachelor's and first professional, master's and doctor's degrees granted by the Virginia institutions of higher education, both state and privately controlled, between July 1, 1963 and June 30, 1964 are also given in Table 4. In each case, Virginia's percentage of the total degrees granted in the United States was considerably below the 2.0 per cent ratio. Degrees granted at the master's and doctor's levels by the Virginia institutions were especially far below the suggested norm.

Degree Production in Virginia's Institutions of Higher Education

Since the number and proportion of degrees granted may vary significantly from one academic field to another, and from one year to the next, Table 5 has been developed to show the percentage of the national total for degrees awarded by Virginia institutions of higher education in specific subject matter fields at each level in the three-year period from July 1, 1961, through June 30, 1964. In several fields of study, Virginia institutions have been notably deficient in baccalaureate degree production for the past three years when comparisons with Virginia's 2.0 per cent population and economic ratio are made. Agriculture, anthropology, business, education, forestry, geology, geography, home economics, journalism, library science, and speech and dramatic arts show relatively low degree production when measured against this ratio. By contrast, in the professional fields of dentistry, engineering, law, and the liberal arts field of chemistry,

Table 5. DEGREES AWARDED BY ALL VIRGINIA INSTITUTIONS OF HIGHER EDUCATION BETWEEN 1961-64 AS A PERCENTAGE OF THE NATIONAL TOTALS, BY SUBJECT FIELD AND LEVEL^a

| Subject Field | Bachelor's & First Professional Degree | Master's Degree | Doctor's Degree |
|--------------------------|---|------------------------|------------------------|
| Agriculture | 1.22 | 1.23 | .76 |
| Anatomy | -- | .76 | 5.00 |
| Anthropology | -- | .41 | -- |
| Architecture | 2.06 | 1.71 | -- |
| Astronomy | 1.10 | .65 | -- |
| Bacteriology | .87 | .41 | .36 |
| Biochemistry | 1.19 | 2.58 | 2.12 |
| Biology | 2.43 | 1.36 | 1.79 |
| Biological Sciences | 1.17 | 1.53 | .11 |
| Botany | -- | .37 | -- |
| Bus. & Com. - Accounting | .82 | -- | -- |
| Bus. & Com. - Other | 1.45 | .52 | -- |
| Chemistry | 2.14 | .86 | .97 |
| Dentistry | 2.19 | -- | -- |
| Economics | 2.08 | .80 | 2.03 |
| Education | 1.29 | .88 | .36 |
| Engineering | 1.96 | 1.10 | .61 |
| English | 1.92 | .99 | .45 |
| Fine Arts | 2.22 | .21 | -- |
| Forestry | 1.03 | -- | -- |
| Geography | .49 | -- | -- |
| Geology | 1.01 | 1.44 | .31 |
| History | 2.53 | .84 | 1.47 |
| Home Economics | .94 | 1.49 | .79 |
| International Relations | 3.43 | 1.51 | 10.68 |
| Journalism | .51 | -- | -- |
| Language - Classical | 1.89 | .29 | -- |
| French | 2.88 | .86 | -- |
| German | 1.44 | .12 | -- |
| Spanish | 1.84 | 1.10 | -- |
| Russian & Slavic | .69 | -- | -- |
| Other Modern | .62 | -- | -- |
| Law | 2.87 | .87 | -- |

Table 5. CONTINUED

| Subject Field | Bachelor's & First Professional Degree | Master's Degree | Doctor's Degree |
|--------------------------|--|-----------------|-----------------|
| Library Science | .55 | -- | -- |
| Mathematics | 1.71 | 1.30 | 1.28 |
| Medical Sciences | 1.80 | .33 | 1.21 |
| Medicine (M.D. Only) | 1.88 | -- | -- |
| Music | 1.41 | -- | -- |
| Nursing | 1.76 | -- | -- |
| Pharmacy | 1.53 | -- | -- |
| Philosophy | 1.38 | .58 | .51 |
| Physical Education | 1.24 | .44 | -- |
| Physics | 2.12 | 1.20 | 2.00 |
| Physical Sciences | .88 | .12 | .23 |
| Physiology | -- | 1.15 | 1.50 |
| Political Science | 1.71 | .20 | .85 |
| Psychology | 2.41 | 1.38 | .43 |
| Public Administration | 6.88 | -- | -- |
| Religious Educ. & Bible | 4.02 | -- | .24 |
| Social Sciences | .97 | .72 | .16 |
| Social Work | -- | 6.50 | -- |
| Sociology | 3.08 | -- | -- |
| Speech and Drama | .72 | .16 | -- |
| Theology | 1.23 | 1.72 | 2.20 |
| Zoology | -- | .27 | -- |
| Arts, Sciences w/o major | 1.16 | 3.38 | 4.55 |
| Trade & Industrial Trng. | .25 | -- | -- |
| Other | .04 | 2.27 | -- |
| Total | 1.66 | .88 | .76 |

^a Computed from Office of Education, Earned Degrees Conferred, 1961-62 and Summary Report on Bachelor's and Higher Degrees Conferred, 1962-63, 1963-64, Washington, D. C.

economics, English, fine arts, history, French, physics, psychology, religious education and Bible, and sociology, Virginia's colleges have been approximately at or above the 2.0 per cent proportion in their production of baccalaureate degrees.

The percentage of physicians (those granted the M. D. degree) graduated by the two Virginia medical schools average 1.88 per cent of the national total for the past three years, but Virginia's production has shown a decline since 1958-59 when it was 2.36 per cent of the national figure to 1.89 per cent in 1963-64. This shift has probably been a result both of the increased size of graduating classes at some existing medical schools in other states and the creation of new degree-granting institutions, as well as a decline in the actual number of M. D. degrees awarded by the two Virginia medical schools between 1959 and 1964. The reduction in total number of physicians graduated by Virginia's medical schools partially reflects the discontinuation of contract programs for out-of-state students in this period. Even with adjustments for these contract students, however, the net total of physicians awarded the M. D. degree in 1964 was less than in 1959. The 1.53 per cent shown in Table 5 for pharmacists reflects the change in curriculum to a five year program at the Medical College of Virginia (the only degree-granting Virginia college for this program) in 1962-63 rather than a continuing proportion at this percentage.

While the institutions of higher education in Virginia have awarded substantially fewer total degrees at the baccalaureate level than the 2.0 per cent population and economic ratio would predict in many subject fields, it is in the area of graduate degree production that the Commonwealth has been most deficient. Between 1961 and 1964, 1.66 per cent of all bachelor's

and first professional degrees awarded in the United States were granted by Virginia's colleges and universities. At the master's level and at the doctorate, fewer than 1.0 per cent of all degrees between 1961 and 1964 were awarded by Virginia institutions. Virginia produced only .88 per cent of the master's degrees and .76 per cent of the doctorates in this three-year period. Table 5 shows the breakdown of graduate degrees awarded between 1961 and 1964 by field, as a percentage of the national totals.

At the master's degree level, only in the fields of biochemistry, social work, and arts or sciences without major of the specified fields, was Virginia's production above its population and economic level of 2.0 per cent of the national total. The social work figure is partially distorted because some Schools of Social Work, outside of Virginia, give only a first professional degree rather than the master's degree and would thus be included in the first column of Table 5. Of particular note, in view of shortages in professional librarians at colleges and universities, is the fact that the Master of Science in Library Science degree was not awarded by any Virginia institution in this period; the program is not offered in the Commonwealth.

Doctor's degrees (Ph.D., Ed.D., Th.D., etc.) produced over the last three years in Virginia institutions reached the 2.0 per cent level only in the field of anatomy, biochemistry, economics, international relations, physics, theology, and arts or sciences without major. On quantitative measurements alone, Virginia quite clearly has not been producing its proportionate total of graduate degree recipients. The deficit at the graduate level has been far greater than that at the baccalaureate level.

Table 5 presented measurement of degree production by Virginia colleges

and universities on the basis of the state proportion of national totals for a single three-year period, 1961-64. Tables 6, 7, and 8 show the actual numbers of degrees by subject field for two three-year periods, 1958-61 and 1961-64, at the baccalaureate, master's and doctorate levels. The data thus permit an estimate of trends. As in the case of Table 5, the periods are from July 1 of the earlier year to June 30 of the final year of the period. Figures are shown for all institutions of higher education in the United States and for all the state and private colleges in Virginia. In order to indicate any changes in Virginia's proportion of the national total in these two periods of time, these percentages are also shown in these tables.

It is encouraging to note from the line of totals at the end of each of the three Tables, 6, 7, and 8, that Virginia's production of degrees at each level was a higher percentage of the national total in the 1961-64 period than it was in the preceding three-year period, 1958-61. Comparison with the data shown in Table 4 also indicates that in the final year of the second three-year period, 1963-64, Virginia's percentages of the national totals for both master's and doctor's degrees were above the average of the three-year period, 1961-64; this indicates that the encouraging trend, as noted above, was continued for graduate-level degrees into the last year for which data are available. Although the trends shown in the lines of totals on Tables 6, 7, and 8 warrant encouragement, the rate of increase in the percentages is rather slow. It may be calculated that, if the increase continues at the same rate as shown in these tables, it will be 25 years before Virginia reaches the expected level of 2 per cent of the national total of doctor's degrees; and for master's and bachelor's degrees it will

Table 6. BACHELOR'S AND FIRST PROFESSIONAL DEGREES AWARDED BY VIRGINIA INSTITUTIONS OF HIGHER EDUCATION BETWEEN 1958-61 AND 1961-64, NUMBER AND PERCENTAGE OF NATIONAL TOTAL, BY SUBJECT FIELD ^a

| Subject Field | Total USA | | Virginia | | | | | | % of Nat'l. | |
|-------------------------|-----------|---------|----------|---------|---------|---------|---------|---------|-------------|---------|
| | | | Public | | Private | | Total | | Total | |
| | 1958-61 | 1961-64 | 1958-61 | 1961-64 | 1958-61 | 1961-64 | 1958-61 | 1961-64 | 1958-61 | 1961-64 |
| Agriculture | 14,632 | 13,801 | 180 | 169 | -- | -- | 180 | 169 | 1.23 | 1.22 |
| Anatomy | 314 | 146 | -- | -- | -- | -- | -- | -- | -- | -- |
| Anthropology | 1,330 | 2,287 | 6 | -- | -- | -- | 6 | -- | .45 | -- |
| Architecture | 5,188 | 5,861 | 119 | 102 | 21 | 19 | 140 | 121 | 2.70 | 2.06 |
| Astronomy | 96 | 182 | -- | 2 | -- | -- | -- | 2 | -- | 1.10 |
| Bacteriology | 1,597 | 1,945 | 9 | 17 | -- | -- | 9 | 17 | .56 | .87 |
| Biochemistry | 435 | 505 | -- | -- | -- | 6 | -- | 6 | -- | 1.19 |
| Biology | 25,198 | 35,805 | 291 | 465 | 366 | 404 | 657 | 869 | 2.61 | 2.43 |
| Biological Sciences | 11,473 | 10,556 | 104 | 44 | 132 | 80 | 236 | 124 | 2.06 | 1.17 |
| Botany | 1,083 | 1,225 | 13 | -- | -- | -- | 13 | -- | 1.20 | -- |
| Bus. & Com., Accounting | 32,639 | 37,182 | 192 | 203 | 106 | 101 | 298 | 304 | .91 | .82 |
| Bus. & Com., Other | 122,572 | 127,375 | 1,030 | 1,322 | 446 | 527 | 1,476 | 1,849 | 1.20 | 1.45 |
| Chemistry | 22,515 | 26,628 | 252 | 268 | 285 | 301 | 537 | 569 | 2.39 | 2.14 |
| Dentistry (DDS only) | 9,686 | 9,596 | 207 | 210 | -- | -- | 207 | 210 | 2.14 | 2.19 |
| Economics | 23,150 | 28,411 | 318 | 358 | 213 | 232 | 531 | 590 | 2.29 | 2.08 |
| Education | 236,658 | 276,724 | 2,290 | 2,722 | 807 | 856 | 3,097 | 3,578 | 1.31 | 1.29 |
| Engineering | 111,808 | 103,419 | 2,036 | 1,999 | 19 | 32 | 2,055 | 2,031 | 1.85 | 1.96 |
| English | 60,365 | 85,265 | 595 | 890 | 620 | 748 | 1,215 | 1,638 | 2.01 | 1.92 |
| Fine Arts | 17,978 | 22,075 | 236 | 345 | 91 | 144 | 327 | 489 | 1.82 | 2.22 |
| Forestry | 4,187 | 4,350 | 16 | 45 | -- | -- | 16 | 45 | .38 | 1.03 |
| Geography | 2,815 | 3,485 | 15 | 17 | -- | -- | 15 | 17 | .53 | .49 |
| Geology | 7,073 | 3,552 | 66 | 28 | 15 | 8 | 81 | 36 | 1.15 | 1.01 |
| History | 44,293 | 61,252 | 524 | 696 | 600 | 853 | 1,114 | 1,549 | 2.54 | 2.53 |
| Home Economics | 13,278 | 13,672 | 117 | 122 | 15 | 6 | 132 | 128 | .99 | .94 |
| International Relations | 1,402 | 2,248 | 28 | 65 | 7 | 12 | 35 | 77 | 2.50 | 3.43 |
| | | | | | | | | | | 20 |

Table 6. CONTINUED

| Subject Field | Total USA | | Virginia | | | | | | % of Nat'l. | |
|-------------------------|-----------|---------|----------|---------|---------|---------|---------|---------|-------------|---------|
| | Total | | Public | | Private | | Total | | Total | |
| | 1958-61 | 1961-64 | 1958-61 | 1961-64 | 1958-61 | 1961-64 | 1958-61 | 1961-64 | 1958-61 | 1961-64 |
| Journalism | 6,907 | 6,997 | 11 | 15 | 20 | 21 | 31 | 36 | .45 | .51 |
| Languages - Classical | 2,079 | 2,857 | 20 | 17 | 27 | 37 | 47 | 54 | 2.26 | 1.89 |
| French | 6,026 | 11,405 | 78 | 141 | 111 | 187 | 189 | 328 | 3.14 | 2.88 |
| German | 2,007 | 4,022 | 7 | 35 | 25 | 23 | 32 | 58 | 1.59 | 1.44 |
| Spanish | 4,991 | 9,065 | 58 | 72 | 64 | 95 | 122 | 167 | 2.44 | 1.84 |
| Russian & Slavic | 391 | 1,297 | -- | -- | 3 | 9 | 3 | 9 | .77 | .69 |
| Other | 1,302 | 1,613 | 1 | 2 | 3 | 8 | 4 | 10 | .31 | .62 |
| Law | 28,753 | 30,832 | 490 | 623 | 216 | 262 | 706 | 885 | 2.46 | 2.87 |
| Library Science | 5,694 | 6,925 | 43 | 38 | -- | -- | 43 | 38 | .76 | .55 |
| Mathematics | 33,583 | 49,408 | 249 | 438 | 314 | 408 | 563 | 846 | 1.68 | 1.71 |
| Medical Sciences | 12,715 | 14,423 | 226 | 235 | 8 | 25 | 234 | 260 | 1.84 | 1.80 |
| Medicine (MD only) | 20,928 | 21,803 | 485 | 410 | -- | -- | 485 | 410 | 2.32 | 1.88 |
| Music | 8,723 | 9,288 | 50 | 47 | 74 | 84 | 124 | 131 | 1.42 | 1.41 |
| Nursing | 19,526 | 20,259 | 267 | 292 | 77 | 64 | 344 | 356 | 1.76 | 1.76 |
| Pharmacy | 10,788 | 10,078 | 171 | 154 | -- | -- | 171 | 154 | 1.59 | 1.53 |
| Philosophy | 10,267 | 12,620 | 66 | 89 | 66 | 85 | 132 | 174 | 1.29 | 1.38 |
| Physiology | 34,326 | 36,512 | 261 | 341 | 128 | 112 | 389 | 453 | 1.13 | 1.24 |
| Physics | 12,469 | 14,553 | 153 | 224 | 80 | 85 | 233 | 309 | 1.87 | 2.12 |
| Physical Sciences | 4,864 | 4,782 | 28 | 21 | 37 | 21 | 65 | 42 | 1.34 | .88 |
| Physiology | 229 | 335 | -- | -- | -- | -- | -- | -- | -- | -- |
| Political Science | 20,193 | 30,734 | 148 | 221 | 187 | 305 | 335 | 526 | 1.66 | 1.71 |
| Psychology | 24,018 | 34,059 | 333 | 471 | 262 | 349 | 595 | 820 | 2.48 | 2.41 |
| Public Administration | 1,311 | 1,425 | 53 | 98 | 7 | -- | 60 | 98 | 4.58 | 6.88 |
| Religious Educ. & Bible | 11,424 | 11,805 | 16 | 20 | 350 | 455 | 366 | 475 | 3.20 | 4.02 |
| Social Sciences | 35,735 | 43,146 | 192 | 340 | 74 | 80 | 266 | 420 | .74 | .97 |

Table 6. CONTINUED

| Subject Field | Total USA | | Virginia | | | | | | % of Nat'l. | |
|-----------------------------|-----------|-----------|----------|---------|---------|---------|---------|---------|-------------|---------|
| | 1958-61 | 1961-64 | Public | | | Private | | | Total | |
| | | | 1958-61 | 1961-64 | 1961-64 | 1958-61 | 1961-64 | 1961-64 | 1958-61 | 1961-64 |
| Social Work | 6,841 | 9,177 | 39 | -- | -- | -- | -- | -- | .57 | -- |
| Sociology | 21,578 | 28,291 | 250 | 431 | 440 | 420 | 871 | 871 | 3.11 | 3.08 |
| Speech and Dramatic Arts | 12,142 | 12,978 | 60 | 65 | 28 | 26 | 93 | 93 | .71 | .72 |
| Theology | 15,192 | 14,602 | -- | -- | 180 | 478 | 180 | 180 | 3.15 | 1.23 |
| Zoology | 6,637 | 8,542 | 3 | -- | -- | -- | -- | -- | .05 | -- |
| Arts, Sciences w/o Major | 12,380 | 17,152 | 26 | 135 | 64 | 69 | 199 | 199 | .77 | 1.16 |
| Trade & Industrial Training | 4,789 | 5,207 | 4 | 6 | 7 | 3 | 13 | 13 | .15 | .25 |
| Other | 11,251 | 9,442 | -- | -- | 4 | -- | 4 | 4 | -- | .04 |
| Total | 1,181,824 | 1,373,181 | 12,432 | 15,070 | 7,767 | 6,872 | 19,304 | 22,837 | 1.63 | 1.66 |

^a Computed from Office of Education, Earned Degrees Conferred 1958-1959, 1959-1960, 1960-1961, 1961-1962 and Summary Report on Bachelor's and Higher Degrees Conferred during the Year, 1962-1963, 1963-1964, Washington, D. C.

Table 7. MASTER'S DEGREES AWARDED BY VIRGINIA INSTITUTIONS OF HIGHER EDUCATION BETWEEN 1958-61 AND 1961-64, NUMBER AND PERCENTAGE OF NATIONAL TOTAL, BY SUBJECT FIELD^a

| Subject Field | Total USA | | Virginia | | | | | | % of Nat'l. | |
|-------------------------|-----------|---------|----------|---------|---------|---------|---------|---------|-------------|---------|
| | 1958-61 | 1961-64 | Public | | | Private | | | 1958-61 | 1961-64 |
| | | | 1958-61 | 1961-64 | 1958-61 | 1961-64 | 1958-61 | 1961-64 | | |
| Agriculture | 3,037 | 3,328 | 34 | 41 | -- | -- | 34 | 41 | 1.12 | 1.23 |
| Anatomy | 194 | 264 | -- | 2 | -- | -- | -- | 2 | -- | .76 |
| Anthropology | 313 | 483 | -- | 2 | -- | -- | -- | 2 | -- | .41 |
| Architecture | 987 | 1,050 | 14 | 18 | -- | -- | 14 | 18 | 1.42 | 1.71 |
| Astronomy | 64 | 154 | -- | 1 | -- | -- | -- | 1 | -- | .65 |
| Bacteriology | 716 | 966 | 9 | 4 | -- | -- | 9 | 4 | 1.26 | .41 |
| Biochemistry | 426 | 581 | 16 | 15 | -- | -- | 16 | 15 | 3.76 | 2.58 |
| Biology | 2,259 | 3,311 | 24 | 39 | 6 | 6 | 30 | 45 | 1.33 | 1.36 |
| Biological Sciences | 954 | 1,111 | 14 | 17 | -- | -- | 14 | 17 | 1.47 | 1.53 |
| Botany | 561 | 814 | 1 | 3 | -- | -- | 1 | 3 | .18 | .37 |
| Bus. & Com., Accounting | 1,389 | 1,540 | -- | -- | -- | -- | -- | -- | -- | -- |
| Bus. & Com., Other | 12,377 | 15,985 | 44 | 21 | 14 | 62 | 58 | 83 | .47 | .52 |
| Chemistry | 3,686 | 4,413 | 31 | 29 | 12 | 9 | 43 | 38 | 1.17 | .86 |
| Dentistry | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Economics | 2,192 | 2,993 | 19 | 20 | -- | 4 | 19 | 24 | .87 | .80 |
| Education | 93,156 | 107,587 | 640 | 883 | 47 | 67 | 687 | 950 | .77 | .88 |
| Engineering | 22,090 | 29,371 | 183 | 294 | 19 | 28 | 202 | 322 | .91 | 1.10 |
| English | 8,594 | 11,976 | 56 | 102 | 10 | 16 | 66 | 118 | .77 | .99 |
| Fine Arts | 2,487 | 3,400 | 5 | 7 | -- | -- | 5 | 7 | .20 | .21 |
| Forestry | 590 | 634 | -- | -- | -- | -- | -- | -- | -- | -- |
| Geography | 580 | 822 | -- | -- | -- | -- | -- | -- | -- | -- |
| Geology | 1,761 | 1,592 | 18 | 23 | -- | -- | 18 | 23 | 1.02 | 1.44 |
| History | 5,490 | 7,292 | 51 | 49 | 9 | 12 | 60 | 61 | 1.09 | .84 |
| Home Economics | 1,582 | 1,681 | 24 | 25 | -- | -- | 24 | 25 | 1.52 | 1.49 |
| International Relations | 683 | 1,588 | 9 | 24 | -- | -- | 9 | 24 | 1.32 | 1.51 |

Table 7. CONTINUED

| Subject Field | Total USA | | Virginia | | | | | | % of Nat'l. | |
|-------------------------|-----------|---------|----------|---------|---------|---------|---------|---------|-------------|---------|
| | Total | | Public | | | Private | | | Total | |
| | 1958-61 | 1961-64 | 1958-61 | 1961-64 | 1958-61 | 1958-61 | 1961-64 | 1961-64 | 1958-61 | 1961-64 |
| Journalism | 787 | 903 | -- | -- | -- | -- | -- | -- | -- | -- |
| Languages - Classical | 532 | 698 | 2 | 2 | -- | -- | -- | 2 | .36 | .29 |
| French | 984 | 1,520 | 4 | 12 | 6 | 1 | 13 | 10 | 1.02 | .86 |
| German | 376 | 830 | -- | 1 | -- | -- | 1 | -- | -- | .12 |
| Spanish | 822 | 1,361 | 2 | 15 | -- | -- | 15 | 2 | .24 | 1.10 |
| Russian & Slavic | 150 | 421 | -- | -- | -- | -- | -- | -- | -- | -- |
| Other | 711 | 1,046 | -- | -- | -- | -- | -- | -- | -- | -- |
| Law | 1,602 | 1,849 | 9 | 16 | -- | -- | 16 | 9 | .56 | .87 |
| Library Science | 880 | 1,690 | -- | -- | -- | -- | -- | -- | -- | -- |
| Mathematics | 5,502 | 9,606 | 72 | 125 | 1 | -- | 125 | 73 | 1.33 | 1.30 |
| Medical Science | 3,268 | 3,612 | 7 | 12 | -- | -- | 12 | 7 | .21 | .33 |
| Medicine (MD only) | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Music | 3,255 | 3,634 | 2 | -- | -- | -- | -- | 2 | .06 | -- |
| Nursing | 1,670 | 1,934 | -- | -- | -- | -- | -- | -- | -- | -- |
| Pharmacy | 362 | 428 | -- | -- | -- | -- | -- | -- | -- | -- |
| Philosophy | 1,110 | 1,391 | 7 | 8 | -- | -- | 8 | 7 | .63 | .58 |
| Physical Education | 5,775 | 6,577 | 18 | 29 | -- | -- | 29 | 18 | .31 | .44 |
| Physics | 3,259 | 4,840 | 48 | 55 | -- | 3 | 58 | 48 | 1.47 | 1.20 |
| Physical Sciences | 1,595 | 1,629 | -- | 1 | -- | 1 | 2 | -- | -- | .12 |
| Physiology | 278 | 349 | -- | 4 | -- | -- | 4 | -- | -- | 1.15 |
| Political Science | 2,135 | 3,053 | 1 | 5 | -- | 1 | 6 | 1 | .04 | .20 |
| Psychology | 4,379 | 5,809 | 49 | 53 | 9 | 27 | 80 | 58 | 1.32 | 1.38 |
| Public Administration | 600 | 894 | -- | -- | -- | -- | -- | -- | -- | -- |
| Religious Educ. & Bible | 1,561 | 1,264 | -- | -- | 17 | -- | -- | 17 | 1.09 | -- |
| Social Sciences | 4,467 | 5,936 | 20 | 43 | -- | -- | 43 | 20 | .45 | .72 |

Table 7. CONTINUED

| Subject Field | Total USA | | Virginia | | | | | | Total | | % of Nat'l. | |
|-----------------------------|-----------|---------|----------|---------|---------|---------|---------|---------|---------|---------|-------------|---------|
| | 1958-61 | 1961-64 | Public | | | Private | | | Total | | 1958-61 | 1961-64 |
| | | | 1958-61 | 1961-64 | 1961-64 | 1958-61 | 1961-64 | 1961-64 | 1958-61 | 1961-64 | | |
| Social Work | 593 | 1,031 | 47 | 67 | -- | -- | -- | 67 | 47 | 67 | 7.93 | 6.50 |
| Sociology | 1,405 | 1,908 | 2 | -- | -- | -- | -- | -- | 2 | -- | .14 | -- |
| Speech and Dramatic Arts | 2,721 | 3,153 | 13 | 5 | -- | -- | -- | 5 | 13 | 5 | .48 | .16 |
| Theology | 2,142 | 2,441 | -- | -- | 42 | 40 | 42 | 42 | 40 | 42 | 1.87 | 1.72 |
| Zoology | 1,126 | 1,464 | 2 | 4 | -- | -- | -- | 4 | 2 | 4 | .18 | .27 |
| Arts, Sciences w/o Major | 1,582 | 2,101 | 72 | 71 | -- | -- | -- | 71 | 72 | 71 | 4.55 | 3.38 |
| Trade & Industrial Training | 37 | 108 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Other | 429 | 1,013 | -- | 23 | -- | -- | -- | 23 | -- | 23 | -- | 2.27 |
| Total | 222,263 | 277,429 | 1,569 | 2,170 | 190 | 279 | 1,759 | 2,449 | 1,759 | 2,449 | .79 | .88 |

^a Computed from Office of Education, Earned Degrees Conferred 1958-1959, 1959-1960, 1960-1961, 1961-1962 and Summary Report on Bachelor's and Higher Degrees Conferred during the Year, 1962-1963, 1963-1964, Washington, D. C.

Table 8. EARNED DOCTORATES AWARDED BY VIRGINIA INSTITUTIONS OF HIGHER EDUCATION BETWEEN 1958-61 AND 1961-64,
NUMBER AND PERCENTAGE OF NATIONAL TOTAL, BY SUBJECT FIELD^a

| Subject Field | Total USA | | Virginia | | | | | | % of Nat'l. Total | | | |
|-------------------------|-----------|---------|----------|---------|---------|---------|---------|---------|-------------------|---------|---------|---------|
| | 1958-61 | 1961-64 | Public | | | Private | | | 1958-61 | 1961-64 | 1958-61 | 1961-64 |
| | | | 1958-61 | 1961-64 | 1958-61 | 1961-64 | 1958-61 | 1961-64 | | | | |
| Agriculture | 1,162 | 1,309 | 2 | 10 | -- | -- | 2 | 10 | .17 | .76 | | |
| Anatomy | 104 | 140 | 1 | 7 | -- | -- | 1 | 7 | .96 | 5.00 | | |
| Anthropology | 176 | 253 | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Architecture | 23 | 7 | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Astronomy | 42 | 93 | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Bacteriology | 415 | 555 | 4 | 2 | -- | -- | .4 | 2 | .96 | .36 | | |
| Biochemistry | 491 | 659 | 3 | 14 | -- | -- | 3 | 14 | .61 | 2.12 | | |
| Biology | 645 | 783 | 11 | 14 | -- | -- | 11 | 14 | 1.71 | 1.79 | | |
| Biological Sciences | 708 | 899 | 1 | 1 | -- | -- | 1 | 1 | .14 | .11 | | |
| Botany | 376 | 467 | 1 | -- | -- | -- | 1 | -- | .27 | -- | | |
| Bus. & Com., Accounting | 48 | 71 | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Bus. & Com., Other | 396 | 680 | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Chemistry | 3,188 | 3,604 | 17 | 35 | -- | -- | 17 | 35 | .53 | .97 | | |
| Dentistry (DDS only) | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Economics | 724 | 984 | 14 | 20 | -- | -- | 14 | 20 | 1.93 | 2.03 | | |
| Education | 4,674 | 6,029 | 20 | 22 | -- | -- | 20 | 22 | .43 | .36 | | |
| Engineering | 2,443 | 4,278 | 12 | 26 | -- | -- | 12 | 26 | .49 | .61 | | |
| English | 1,170 | 1,558 | 6 | 7 | -- | -- | 6 | 7 | .51 | .45 | | |
| Fine Arts | 114 | 134 | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Forestry | 104 | 160 | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Geography | 169 | 186 | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Geology | 563 | 637 | 4 | 2 | -- | -- | 4 | 2 | .71 | .31 | | |
| History | 1,037 | 1,228 | 16 | 18 | -- | -- | 16 | 18 | 1.54 | 1.47 | | |
| Home Economics | 102 | 127 | -- | 1 | -- | -- | -- | 1 | -- | .79 | | |
| International Relations | 80 | 103 | 2 | 11 | -- | -- | 2 | 11 | 2.50 | 10.68 | | |

Table 8. CONTINUED

| Subject Field | Total USA | | Virginia | | | | | | % of Nat'l. | |
|-------------------------|-----------|---------|----------|---------|---------|---------|---------|---------|-------------|---------|
| | 1958-61 | 1961-64 | Public | | | Private | | | 1958-61 | 1961-64 |
| | | | 1958-61 | 1961-64 | 1961-64 | 1958-61 | 1961-64 | 1961-64 | | |
| Journalsim | 25 | 32 | -- | -- | -- | -- | -- | -- | -- | -- |
| Languages - Classical | 86 | 117 | 1 | -- | -- | -- | -- | -- | 1.16 | -- |
| French | 155 | 184 | 2 | -- | -- | -- | -- | -- | 1.29 | -- |
| German | 82 | 149 | -- | -- | -- | -- | -- | -- | -- | -- |
| Spanish | 115 | 125 | -- | -- | -- | -- | -- | -- | -- | -- |
| Russian & Slavic | 28 | 44 | -- | -- | -- | -- | -- | -- | -- | -- |
| Other | 267 | 291 | -- | -- | -- | -- | -- | -- | -- | -- |
| Law | 84 | 97 | 1 | -- | -- | -- | -- | -- | 1.19 | -- |
| Library Science | 39 | 40 | -- | -- | -- | -- | -- | -- | -- | -- |
| Mathematics | 929 | 1,482 | 22 | 19 | -- | 22 | 19 | 19 | 2.37 | 1.28 |
| Medical Sciences | 229 | 331 | 2 | 4 | -- | 2 | 4 | 4 | .87 | 1.21 |
| Medicine (MD only) | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Music | 352 | 423 | -- | -- | -- | -- | -- | -- | -- | -- |
| Nursing | -- | 1 | -- | -- | -- | -- | -- | -- | -- | -- |
| Pharmacy | 164 | 165 | -- | -- | -- | -- | -- | -- | -- | -- |
| Philosophy | 383 | 394 | 6 | 2 | -- | 6 | 2 | 2 | 1.65 | .51 |
| Physical Education | 273 | 294 | 1 | -- | -- | 1 | -- | -- | .37 | -- |
| Physics | 1,533 | 2,197 | 31 | 44 | -- | 31 | 44 | 44 | 2.02 | 2.00 |
| Physical Sciences | 315 | 426 | -- | 1 | -- | -- | 1 | 1 | -- | .23 |
| Physiology | 210 | 267 | -- | 4 | -- | -- | 4 | 4 | -- | 1.50 |
| Political Science | 609 | 705 | 3 | 6 | -- | 3 | 6 | 6 | .49 | .85 |
| Psychology | 1,979 | 2,564 | 8 | 11 | -- | 8 | 11 | 11 | .40 | .43 |
| Public Administration | 57 | 81 | -- | -- | -- | -- | -- | -- | -- | -- |
| Religious Educ. & Bible | 319 | 409 | -- | 1 | -- | -- | 1 | 1 | -- | .24 |
| Social Sciences | 505 | 632 | 1 | 1 | -- | 1 | 1 | 1 | .20 | .16 |

Table 8. CONTINUED

| Subject Field | Total USA | | Virginia | | | | | | % of Nat'l. | | |
|-----------------------------|-----------|---------|----------|---------|---------|---------|---------|---------|-------------|---------|-------|
| | 1958-61 | 1961-64 | Public | | Private | | Total | | 1958-61 | 1961-64 | Total |
| | | | 1958-61 | 1961-64 | 1958-61 | 1961-64 | 1958-61 | 1961-64 | | | |
| Social Work | 89 | 115 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Sociology | 502 | 579 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Speech and Dramatic Arts | 405 | 555 | 1 | -- | -- | -- | 1 | -- | .25 | -- | -- |
| Theology | 459 | 455 | -- | -- | 13 | 10 | 13 | 10 | 2.83 | 2.20 | -- |
| Zoology | 494 | 648 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Arts, Sciences w/o Major | 29 | 22 | 3 | 1 | -- | -- | 3 | 1 | 10.34 | 4.55 | -- |
| Trade & Industrial Training | 16 | 28 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Other | 78 | 138 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Total | 29,764 | 38,934 | 196 | 284 | 13 | 10 | 209 | 294 | .70 | .76 | |

^a Computed from Office of Education, Earned Degrees Conferred 1958-1959, 1959-1960, 1960-1961, 1961-1962 and Summary Report on Bachelor's and Higher Degrees Conferred during the Year, 1962-1963, 1963-1964, Washington, D. C.

take Virginia about half that long to reach the expected norm of 2 per cent of the national total.

At the baccalaureate level, as shown in Table 6, the different subjects show some variations in percentages between the 1958-61 period and the three years from 1961-64. Except for shifts in production of M. D. degrees, as noted above, and professional degrees in theology, these variations do not appear particularly significant at the baccalaureate and first professional level. That is, in most subject fields in which Virginia's percentage of the national totals was either above or below the 2.0 per cent figure between 1958-61, it remained generally at the same point in the 1961-64 period.

At the graduate level the same generalization holds for master's degrees in the two three-year periods, as shown in Table 7. Because of the smaller number of doctoral degrees, both nationally and in Virginia, however, there are some greater variations in the Virginia percentage of the national total by subject field, but these do not appear particularly significant.

An analysis of the number of degrees by subject field awarded by state and privately controlled colleges in Virginia at baccalaureate, master's and doctoral levels over the two three-year periods shown on Tables 6, 7, and 8 reveals that Virginia's privately controlled colleges granted about one-third of all baccalaureate and first professional degrees in both three-year periods but only about one-ninth of the master's degrees, and less than 1 per cent of the earned doctorates - all the last mentioned in theology. Although the privately controlled colleges and universities in Virginia granted only about one-third of the state's total of bachelor's degrees, in the following fields the privately controlled institutions in 1961-64 exceeded the state controlled in the production of bachelor's degrees:

biological sciences, chemistry, history, journalism, classical languages, almost all the modern foreign languages, music, political science, religious education and Bible, sociology, and theology. At the master's level the privately controlled colleges and universities granted less than 10 per cent of the state's total of master's degrees in 1961-64, but they exceeded the production of master's degrees by the state controlled institutions in business and commerce, and in theology. The analysis of degrees granted makes it abundantly evident that the privately controlled institutions of higher education in Virginia make a most important contribution to the state's service in higher education.

Virginia's Colleges and Universities

Any discussion of Virginia's performance in higher education must take into account the difficulty of defining precisely the institutions rendering service at this level. How does one define an institution of higher learning and where is this information found in Virginia? At the outset of the Commission's work, the Staff received, through the courtesy of the State Council of Higher Education, a definitive list of institutions of higher education in the Commonwealth, as prepared by the State Board of Education.

By statute the State Board of Education approves and accredits degree-granting institutions in Virginia. The specific wording of the appropriate statute is as follows:

Title 23, Chapter 1, Section 23-9.

Conferring college degrees. - No institution of learning in the State shall confer any college degree, whether academic, professional or honorary, unless and until such institution has been approved for such purpose by the State Board of Education. The provision of this section shall not apply to the institutions of higher learning accredited by the State Board of Education for granting of college degrees or specifically authorized by an Act

of the General Assembly. Any person, firm, association or corporation violating any of the provisions of this section shall be punished by a fine of not less than one hundred dollars nor more than one thousand dollars, and the granting of each degree in violation of this section shall constitute a separate offense. (1942)

It is the responsibility of the Division of Teacher Education of the State Department of Education to keep up to date the list of Virginia institutions of higher education accredited by the State Board of Education. Each year this list is reproduced for use in the Department's Educational Directory and in the Annual Report of the Superintendent of Public Instruction. The practice has been followed that once an institution is accredited by the State Board of Education, it remains on the list until the State Board of Education takes action otherwise. The list of Virginia colleges and universities utilized in this Study was that developed for the 1964-65 Session (See Appendix "A," below) by the Division of Teacher Education as dated October 29, 1964. In addition, the newly-opened two-year branch of the University of Virginia at Wallops Island on the Eastern Shore was added to the institutions under Commission consideration.

As the Commission began its work, representatives from each of these accredited institutions were invited to a meeting in Richmond, at which time the Chairman of the Commission and the Director of the Study discussed in detail the plans for conducting the state-wide Study. The institutional representatives were invited to submit suggestions or modifications of the Study Outline presented at this meeting.

During the course of the Study, each of the accredited institutions as shown on the State Board of Education list, plus the Eastern Shore Branch of the University of Virginia, was visited by a member of the Survey Staff. Generally, the pattern followed was that the Director visited the four-year state controlled institutions, the Associate Director visited the four-year privately controlled institutions and the Senior Research Associate, who has been particularly involved in the two-year college aspect of the Commission's Study, visited all the state and privately controlled two-year

colleges. There were some modifications in this pattern, however. The Director visited three four-year privately controlled institutions (and two others of this group briefly), and four of the state controlled two-year branches (at least one of each parent institution). The Associate Director visited two of the four-year and two of the two-year state controlled colleges. A member of the Special Task Force on two-year colleges, from the Southern Regional Education Board, also was in Virginia and visited three two-year state controlled colleges.

Data were collected separately from each of the institutions shown as accredited by the State Board of Education for the 1964-65 Session, with the exception of the Technical Institute of Old Dominion College (because it is an integral, on-campus unit of that college). As information was received from these institutions, and during the course of the institutional visits, it became apparent that the State Board of Education's list of accredited institutions did not include all of those agencies within the Commonwealth offering recognized programs of instruction at the post-high school level. As a result, the attempt to measure Virginia's performance in higher education solely on this basis was not completely satisfactory.

The State Board of Education's list of accredited institutions does not show the two theological seminaries in Virginia, Union Theological Seminary in Richmond and the Protestant Episcopal Seminary in Alexandria. Both of these institutions award professional baccalaureate degrees in divinity, and Union Theological Seminary offers programs leading to the doctorate in theology. Each of these institutions also holds a charter from the General Assembly, dating back to the mid-nineteenth century; neither has requested nor received accreditation from the State Board of Education. Although statistics concerning the number of degrees granted

by these seminaries have been obtained from reports of the United States Office of Education, other data were generally not collected from or analyzed for these institutions, nor were personal visits made to them.

In addition to these two institutions, another college which is accredited by the State Board of Education as a "junior college under private control" grants a professional divinity degree and also awards baccalaureate degrees to students completing a four-year college program in such fields as education, social sciences, and the like.

During the Study, other institutions and facilities also began to appear as a part of the total pattern of higher education within the Commonwealth. For example, the United States Office of Education's Higher Education Directory for 1964-65, which is a comprehensive listing of all institutions within the United States meeting specified criteria, shows four other schools operating in Virginia, which are not found on the State Board of Education's list of accredited institutions. These are Father Judge Mission Seminary, Monroe, Virginia; National Business College, and Virginia Southern College, in Roanoke; and the Judge Advocate General's School in Charlottesville. Criteria for inclusion in this national Higher Education Directory for the United States are:

"... institutions accredited or approved by a nationally recognized accrediting agency, by a State department of education, or by a State university ... or institutions not meeting requirements of criterion 1 are eligible for inclusion if their credits have been and are accepted as if coming from an accredited institution by not fewer than three accredited institutions."⁹

The Southern Association of Colleges and Schools is the regional

9 U. S. Office of Education, Higher Education Directory, 1964-65, Washington, D. C., 1965, p. 1.

accrediting association for institutions of higher education in Virginia, but some of the recognized colleges in the Commonwealth have not received accreditation by this agency. For this reason the list of accredited colleges and universities as developed by the Southern Association could not be used as a basis for determining the institutions to be included in this Study.

The reader is cautioned to remember that the four institutions that are included in the Higher Education Directory for 1964-65 but are not on the accredited list of the State Board of Education have been omitted in the analysis of resources for higher education in the Commonwealth; and the two theological seminaries have been included only in the analysis of degrees granted. The omission of these six institutions does not affect the state totals appreciably.

Another problem in the definition of higher education arises in the programs of extension courses that may be taken by students for credit toward degrees. Several of the Virginia institutions provide opportunities away from the main campus for students to take one or two or even three years of undergraduate study in so-called "extension centers." The undergraduate extension courses may be applied toward the baccalaureate degree. A few colleges and universities offer substantial programs of graduate courses in extension centers; these graduate courses may be applied toward the master's or even the doctor's degree. It is usually not possible for a student to satisfy all degree requirements in an off-campus location, but he may be able to secure as much or more credit toward a bachelor's degree as he would acquire in a two-year college. The many off-campus centers which provide higher education programs have not been dealt with in this Study in the same manner as separately organized branches, because they did

not appear on the list of accredited institutions issued by the State Board of Education for the 1964-65 Session.

To illustrate the complexity of the problem involved in defining institutions and programs of higher education in Virginia from which data were to be separately collected and institutional visitations were to take place, the off-campus programs of three major state controlled institutions may be described.

The University of Virginia has three "community colleges" with full two-year programs of freshman and sophomore courses. Clinch Valley College at Wise and George Mason College at Fairfax are "community colleges" under the administrative direction of the Chancellor for Community Colleges in Charlottesville.

It should be noted here that the designation "community college" as used in Virginia refers to a very different kind of institution from that to which this designation commonly applies in other states. The term "community college" has been used by the parent institutions without specific legislative authorization by the General Assembly; the language used by the General Assembly in authorizations and appropriations for these branch operations is either "college" or "branch" or, in one case, "institute."

In addition to the two "community colleges" operated under the administrative direction of the Chancellor for Community Colleges, the University of Virginia operates one "community college," Patrick Henry College in Martinsville, and two two-year "branches," Lynchburg Branch at Lynchburg, and Eastern Shore Branch at Wallops Island in Accomack County; these three units are under the direction of the University's Dean of the School of General Studies, whose office is in Charlottesville. All three of the units operated under the School of General Studies offer full two-year transfer programs. With the exception of the Lynchburg Branch, each of the

"community colleges" or "branches" of the University of Virginia has specific statutory authorization.

The University's School of General Studies, which administers three of the formally-organized two-year institutions, is comparable to what is often designated as the "extension division" in many other universities throughout the United States. In addition to the two-year institutions, the School of General Studies operates a broad program of extension class-teaching throughout the Commonwealth.

Virginia Polytechnic Institute maintains three two-year "branches" to which it has given the designation "community colleges," those at Clifton Forge-Covington, Danville, and Wytheville. A fourth two-year program in Roanoke is operated by Virginia Polytechnic Institute under the name of Roanoke Technical Institute, which in addition to its technical curriculum now provides a full two-year college transfer program. Virginia Polytechnic Institute also maintains, in Richmond, a program offering the first two years of the engineering curriculum; this program is conducted in conjunction with Richmond Professional Institute, but the faculty members are appointed by and the curriculum is controlled by Virginia Polytechnic Institute at Blacksburg. Three of the two-year institutions, at Clifton Forge-Covington, Wytheville, and Roanoke have received specific authorization by the General Assembly; the two-year program in Richmond has not, and apparently the General Assembly has not specifically authorized the Danville branch, though an appropriation has been designated for it.

The College of William and Mary has two "branches;" one is in Newport News, entitled Christopher Newport College of The College of William and Mary; the other is in Petersburg, known as Richard Bland College of The College of William and Mary. Both these "branches" of The College of William

and Mary have received specific authorization from the General Assembly.

Another kind of off-campus instructional program, differing from the formally recognized two-year "branch" colleges, is offered through the extension divisions of a number of the Virginia institutions. The extension services in a given institution may range from a single class offered at some isolated location for a group of students wanting to study that subject, to a widely diversified offering of courses in many subjects in the more populous areas of the Commonwealth. In general the extension classes carry regular college credit that may be applied toward a degree at the institution offering the course. "Centers" where a substantial grouping of extension classes are offered may be found in the same communities where the parent institution (or some other institution) also maintains a formally organized two-year branch college.

For example, the School of General Studies of the University of Virginia operates nine "extension centers" and three "field offices" throughout the Commonwealth, some, such as those in Arlington and Roanoke, with much larger enrollments than any of the University's "community colleges" and "branches" mentioned above. In most of these "extension centers" it is possible for a student to take the full first year of a college transfer program, and in several it is possible for him to obtain college transfer credit for the entire first two years toward the baccalaureate. Moreover, extensive programs of graduate work are also offered in some of the "centers."

Administratively, "extension centers," "field offices," and "branches" are different from the three "community colleges" of the University, since they receive no separate appropriation from the General Assembly.

Somewhat similar extension programs are operated by a number of the other state controlled colleges and universities in Virginia. The "centers" set up for extension service receive no specific legislative authorization. In some cases an "extension center" has been the matrix out of which a recognized "branch" or "community college" has developed.

In the present Report enrollments of students taking extension classes have been included, but the locations throughout the State where extension classes are conducted have not been identified on the maps. However, off-campus "extension centers" from which such classes are administered are shown in Appendix "B."

Besides the off-campus programs of the institutions that have been mentioned, four other institutions maintain on-campus programs that may seem marginal in any strict definition of "higher education." Post-high school technical training programs are offered by the Technical Institute of Old Dominion College at Norfolk, the School of Engineering Technology at Richmond Professional Institute, and the Schools of Industries at Virginia State College at Petersburg and at its Norfolk Division. Some of the courses in these technical programs may carry college transfer credit, depending upon the subject of the course and the collegiate level institution to which a student may transfer. Many of the courses, however, are not of the level normally acceptable as credit toward the baccalaureate degree. The units mentioned in this paragraph are not given separate mention by the State Board of Education in the list of accredited colleges and universities, inasmuch as in each case the unit is an integral part of the institution under which it is operated. In the present Study the data for these units have been included in each case as a part of the total operations of the parent institution, except as otherwise noted.

In addition to the technical training programs under the jurisdiction

of accredited, degree-granting institutions listed above, there are five area vocational-technical schools operated by local public school systems in collaboration with the Vocational Division of the Virginia State Department of Education. These are located at Abingdon, Danville, Fishersville, Radford, and Wise. The technical-training programs at Old Dominion College, the Norfolk Division of Virginia State College, Virginia State College at Petersburg, and Richmond Professional Institute, mentioned above, are also conducted in cooperation with the State Department of Education and receive some financial support from this source. High school graduation or its equivalent may be required for admission to many of the programs in these area-vocational schools. Inasmuch as none of the five area vocational-technical schools is listed by the State Board of Education as an accredited institution of higher education, data from these schools have not been included in this Study.

The 1964 General Assembly established the State Board of Technical Education; this Board has adopted criteria for the creation of "technical colleges." This will add to the complication of defining what constitutes an institution of higher education in Virginia. The "technical colleges" will offer post-high school programs in technical education, with some liberal arts courses as well. One such "technical college" is scheduled to open in the Fall of 1965 at Bailey's Crossroads in Fairfax County, Virginia. Others are in the planning stage and are expected to open in the near future.

In addition to the programs operated by four-year state controlled institutions, there are separately organized research facilities which also contribute to the total resources available for higher education in Virginia. For example, the Virginia Institute of Marine Science at Gloucester Point and the Virginia Associated Research Center at Newport News, carry on

extensive research programs, and offer courses at the graduate level in their respective fields of biology and nuclear physics. These facilities are associated with one or more four-year state controlled institutions for the purpose of awarding degrees, but they operate almost autonomously on a day-to-day basis. Although facilities of the two mentioned research agencies were visited by the Director of the Study, no data were specifically collected from either of them, because the policy in the Study was to request statistical information only from those institutions on the State Board of Education's list of accredited institutions. There are also privately supported research agencies, such as the Virginia Institute of Scientific Research, whose programs also make substantial contributions to "higher education" in the Commonwealth, but from which no data were collected.

Finally, there are certain "fringe areas" of higher education, including such agencies as hospital schools of nursing, business and secretarial schools operated on a proprietary basis, and various other kinds of vocational and trade schools. Such schools may, and often do, require high school graduation for entrance, but they are not normally considered as members of the family of institutions of higher education. In the present Study, some attention is given to hospital schools of nursing, with respect to their contribution to the training of personnel for professions associated with medicine and health services. Vocational and trade schools of other types, however, have not been included in the present Study.

The "fringe areas" of higher education extend even to operations of questionable character, sometimes known as "degree-mills" or "diploma mills." These are operations designed to prey upon the unsuspecting or gullible person, who may be unaware of the shallow nature of their activities or "programs," or who is willing to part with good money for the dubious

distinction of being granted a degree or diploma that is not based upon a rigorous course of study and tested by appropriate examinations.

One of the best-known national authorities on bogus institutions is Dr. Robert H. Reid, now Director of George Mason College of the University of Virginia. Dr. Reid's two national surveys of American degree-mills have made substantial contributions to knowledge about this problem, both in terms of outlining the extent of its existence and in elaborating on the methods which are used.¹⁰ Dr. Reid has recently written:

"The State of Virginia, once the home of such questionable institutions as Oriental University and Old Dominion University (not to be confused with Old Dominion College in Norfolk) is improving in its efforts to control deceptive practices in higher education. A national survey, under the sponsorship of the American Council on Education, noted Virginia's problem with an out-of-state degree-mill trafficking with a Virginian housed in a state penitentiary. A more recent study reported several later incidents and listed American Legion University and Belin Memorial University of America as having operated in Virginia. The penalties of the Virginia Statute against degree-granting violations (\$100 to \$1,000 fine for each degree illegally granted) do not seem enough to deter dealers in dubious degrees. With current stress on obtaining a diploma, degree-mills are flourishing and the Commonwealth of Virginia, which has not solved its degree-mill problem completely, is no exception."

As a result of Dr. Reid's first survey and the interest of the American Council on Education, a "model" statute, which would restrict if not prevent the operation of "degree-mills," was drawn up by the Council of State Governments. Few states have adopted this statute, but it may be that the General Assembly of Virginia should give early attention to the perennial problem of dubious "colleges and universities" which continue to flourish.

¹⁰ Robert H. Reid, American Degree Mills, Washington, D. C., 1959, and Degree Mills in the United States (unpublished Ph.D. dissertation), Columbia University, New York, 1963.

Programs and Locations of Virginia's Institutions of Higher Education

The preceding section has indicated some of the difficulties the Commission Staff has had in defining the institutions of higher education in Virginia. As a means of showing the programs and locations of the Virginia colleges and universities accredited by the State Board of Education for 1964-65, a series of maps appears in Appendices 1 through 62 with institutional designations by location, categories of control, types of programs, and distinction as to enrollment by sex.

These maps relate college locations and program offerings to the Commonwealth's college-age (18-21) population as estimated for 1965 and also for 1980 by Dr. Lorin Thompson in the Commission's Staff Report #1 of January, 1965. In this manner, these two sets of maps show the extent to which institutions of higher education and programs are currently available in the subregions of the Commonwealth, grouped by estimated college-age population in 1965 and, if no new institutions are established, the situation as it will exist in 1980. A commuting radius of 25 miles from institutional location is also indicated on these maps. The maps with a green background and black circles portray the college-age population pattern of 1965; those with blue background and red circles show the college-age population pattern as estimated for 1980. The circles show only the present institutions of higher education, as defined for the purpose of this Study. In the maps for 1980 it has been assumed that the institutions will remain as they are in 1965, and no attempt has been made to forecast changes in the character of the present institutions or the location of new ones.

Maps 1 through 18 relate all institutions, regardless of programs, to type of control, either state or private, and enrollment by sex. It is

quite clear from these maps that colleges and universities attended predominantly or exclusively by a single sex are a prominent part of the present Virginia pattern.

In the present Study an institution is classified as a single-sex college if 90 per cent or more of its students are of one sex. Some of the Virginia institutions here classified as single-sex do admit a few students of the other sex. Thus the University of Virginia, here classified as attended predominantly by men students, does admit a few women to a number of its schools and colleges, though not to the College of Arts and Sciences. Virginia Polytechnic Institute also here classified as attended predominantly by men students, now admits women to any of its divisions, but the tradition of being a men's college yields ground slowly. Madison College, by tradition and statute limited to the education of women, has been allowed to admit men students on a non-residential basis. Other gradual encroachments on the single-sex pattern may be observed, but the student bodies are still predominantly of the sex which the institution has traditionally served.

It is interesting to note that it is only in the older institutions in the state controlled group that the single-sex pattern is found. All the more recently established colleges have been coeducational. Even the two-year branch colleges are all coeducational, with one exception, even though two of the major parent institutions are single sex. The single exception among the two-year branch colleges is Roanoke Technical Institute; this institution has a predominance of men students, not by design or policy, but only because the curriculums that have been offered appeal chiefly to men. It is expected that Roanoke Technical Institute will in fact become truly coeducational as new curriculums are added, of a type that appeal to

women.

It is pertinent to note that the single-sex pattern of student enrollments has generally been abandoned in the state controlled institutions of most of the states, even where there was a long historical tradition behind it.

In Virginia there are four state controlled and five privately controlled institutions attended predominantly or exclusively by men, and four state controlled and eleven privately controlled institutions attended predominantly or exclusively by women. The remaining thirteen state controlled and fifteen privately controlled colleges, as shown on Maps 13 through 18, are truly coeducational. These maps thus show that eight of the twenty-four state controlled institutions (33 per cent) and sixteen of the thirty-one privately controlled (52 per cent) are essentially single-sex colleges and universities. Of all fifty-two accredited Virginia colleges shown in the appendices nine (17 per cent) are for men, fifteen (29 per cent) are for women, and twenty-eight (54 per cent) are coeducational.

It is interesting to note that subregions with the highest concentration of college-age population are served, by and large, with coeducational institutions, while the single-sex colleges and universities tend to be located in less populous regions. There are exceptions to this generalization.

Maps 19, 20, 21 and 22 reveal that the single-sex pattern of student enrollments at two-year institutions offering programs of freshmen and sophomore courses in liberal arts is true chiefly for the privately controlled colleges. There are seven such institutions for women, all privately controlled. Only Roanoke Technical Institute among the state controlled two-year colleges is attended predominantly by a single sex, in this case male students. As the note on Map 21 indicates, however, Roanoke Technical

Institute, which did not begin offering its two-year program in liberal arts until 1964, is open to women, and it will likely enroll increasing numbers of women as this program expands. When this occurs, it will mean that all two-year state controlled colleges will be truly coeducational. Since there is only one two-year college in Virginia offering nothing in liberal arts beyond the first two years and attended predominantly by men (Roanoke Technical Institute), no maps have been made for this category.

The three state controlled institutions which have established two-year colleges, University of Virginia, Virginia Polytechnic Institute, and The College of William and Mary, have responded to local needs in areas not serviced by programs of a comparable type, as is indicated on Maps 23, 24, 27, and 28. There is little overlap between the privately controlled colleges and state controlled colleges offering first two years only in liberal arts, particularly when the privately controlled women's colleges are considered. Many of the twenty-two subregions of the Commonwealth have two-year liberal arts institutions, but perhaps the most notable exceptions are three localities with the largest concentration of college-age population: Richmond, Norfolk, and the area to the west and south of Roanoke, beyond the 25-mile radius from the city of Roanoke. As shown on Map 27, there are also regions of the Commonwealth with fewer college-age students which are not serviced by a two-year liberal arts institution, for example, the Rockingham-Augusta and Central Southside subregions, and portions of subregions which are beyond the 25-mile radius from an existing two-year college in the urban corridor, stretching south from Northern Virginia to Richmond and east to Norfolk. Moreover, while some subregions with a lesser number of college-age population, both in 1965 and 1980, have two of such institutions, there

are more populous subregions with only one. This situation becomes even more apparent in 1980 for the two Northern Virginia and the North Hampton Roads subregions, as shown on Map 28.

Maps 29 through 40 show the location of Virginia institutions of higher education offering four-year degrees in liberal arts classified by sex of students and by type of control. The most notable part of the pattern here is the complete lack of a four-year college, either state or privately controlled, in the populous subregions of Northern Virginia. The maps showing estimates of college-age population in these subregions for 1980 confirm that an even heavier concentration of potential college students will live in this area that is now without a four-year institution of any kind. These maps again show a distinctive pattern of single-sex institutions.

Although Maps 39 and 40, with the location of all Virginia institutions offering four-year degrees in liberal arts, show a wide dispersion of such colleges and universities, three observations should be made. In the first place, it has been within only relatively recent times that the state has established four-year degree-granting institutions to serve the populous metropolitan areas around the cities of Richmond and Norfolk, and although The College of William and Mary and Hampton Institute serve North Hampton Roads, they are also state-wide and even regional or national institutions. Estimated college-age population in all of these subregions will increase considerably by 1980.

Second, although four-year institutions are widely dispersed around the Commonwealth, they are not generally concentrated in subregions with the greatest college-age population. In other words, Virginia's four-year colleges and universities have tended to be rural in setting and largely residential, rather than urban-orientated, commuting institutions. This

pattern remains in spite of the fact that the Virginia economy has changed dramatically in the past two decades from predominantly rural to predominantly urban.

The third observation has to do with the size of student enrollments at the four-year colleges and universities within the Commonwealth. Unlike privately controlled institutions in many other states, the Commonwealth has no large privately controlled four-year college. The University of Richmond, the largest privately controlled institution within Virginia, had a total of 4,145 students in the Fall of 1964. The remaining privately controlled colleges ranged from the 1,977 students at Hampton Institute to 17 at the Institute of Textile Technology, with the majority of this group of colleges enrolling fewer than 1,000 students in the Fall of 1964.

The situation with respect to the state controlled colleges and universities is similar. Virginia, as yet, has no large state controlled institutions. The term "large" is used relative to state controlled universities and colleges in other states. The former teachers' colleges in Virginia range from the 2,443 students at Radford to 1,468 at Longwood while in many other states such institutions may enroll from 5,000 to 10,000 students. Virginia's state university, the University of Virginia, and its separate land-grant university, Virginia Polytechnic Institute, also enroll far fewer students than such institutions elsewhere, even in Southern states. There is no single institution within Virginia comparable in size to the Universities of Texas, Michigan, Wisconsin, Indiana, Georgia, Florida, North Carolina, Iowa, Maryland, Utah, or other well-known state universities. This phenomenon exists in spite of the fact that three of the states listed have total populations smaller than Virginia (Iowa, Maryland, and Utah) while two are virtually equal in population (Wisconsin and Georgia). The total number of

students for whom college opportunity is provided in the four-year institutions of Virginia is thus considerably smaller than elsewhere.

Maps 41 through 46 show the location of Virginia institutions offering master's degrees. Again, the most impressive part of the pattern of development in higher education at this level is the total absence of an institution of this type in the populous subregions of Northern Virginia. Again, should this pattern be continued into 1980, the situation would become even more noticeable as college-age population increases. Programs for the master's degree at Old Dominion College and Richmond Professional Institute, located in the metropolitan areas of Norfolk and Richmond, are only relatively recent developments. The privately controlled institutions, as noted on Page 29 above, awarded only 10 per cent of all master's degrees granted in the past three years. At the former teachers' colleges, only a total of 53 master's degrees was granted in 1963-64, and at two of them, Mary Washington College, which has no program beyond the baccalaureate level, and at Radford College, which received approval for its master's programs only in February 1964, no master's degrees were granted.

There are no privately controlled institutions in Virginia which grant the earned doctor's degree except for Union Theological Seminary in Richmond, with the Doctor of Theology. Maps 47 and 48 show the location of the state controlled institutions that offer programs leading to the doctor's degree. The College of William and Mary awards the Ph.D. degree, as yet, only in physics, and the Medical College of Virginia has doctoral programs only in fields related to the health professions. Again, subregions with large concentrations of college-age populations in Northern Virginia, Norfolk and North Hampton Roads, and Richmond, do not have institutions which offer comprehensive programs for the doctorate. Without suggesting the need for

expansion of existing programs or the establishment of new programs, one can still note that the continued growth of college-age population will take place in areas which do not now have programs at the doctorate level.

The same situation exists with respect to baccalaureate programs in engineering as shown on Maps 49 and 50. Again, populous subregions in Northern Virginia and in Richmond have no such programs for professional degrees in engineering, and it has been only recently that Old Dominion College has developed an engineering curriculum offering students their complete program in Norfolk. No privately controlled institution in Virginia has a degree program in engineering.

Maps 51 through 62 show the dispersion of institutions offering programs which provide preparation leading to certification for teachers in elementary education. The populous subregions of Northern Virginia again have no institutions providing a program in this field. The single-sex institution is once again part of the Virginia pattern of development in this field; as Maps 57 and 58 indicate, there are only five state controlled institutions which offer programs in elementary education for men, while there are nine such institutions with these programs for women. Complaints about the unavailability of male elementary school teachers in the Virginia public schools may be related, in part, to this pattern.

The preceding paragraphs have summarized some of the salient features of the state-wide pattern of higher education as shown on the two sets of maps located in the appendices. Undoubtedly, there is much information on these maps which can be developed from further study. While further comment and observations could be made in this Report, the juxtaposition of the location of institutions by type of control and program offerings against

estimated college-age population by subregions for 1965 and 1980 reveals dramatically both the opportunities and deficiencies in the Virginia pattern of development.

Enrollment Projections

In addition to analyzing the current situation at Virginia's colleges and universities, the Commission is responsible for looking toward future developments in higher education. Staff Report #1, which has been referred to above, made projections of the college-age (18-21) population from which college students will, in large measure, be drawn in future years. No attempt was made in that Report to predict the number of students who will actually be attending Virginia's colleges and universities in the future.

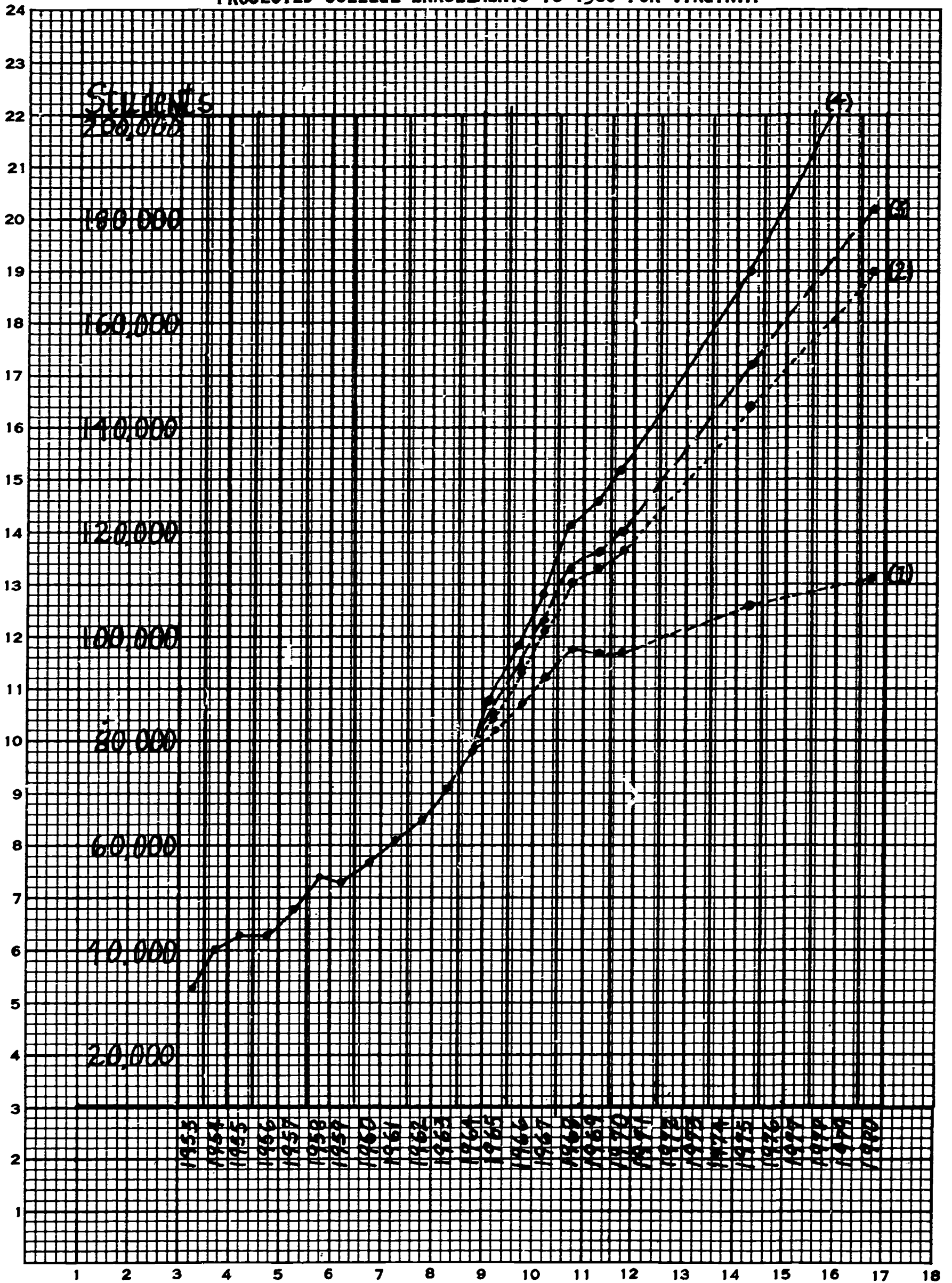
Such predictions are difficult to make accurately. Experience over the past 20 years in other states has generally shown that estimates on future college-going have been conservatively low. The Staff has not had time to develop and follow an involved procedure for projecting future college enrollments in Virginia. It has, however, looked at the pattern of college-attendance in Virginia since 1950, and using a few simple assumptions, has made projections of the number of students who may be expected in the years beyond 1965 to 1980.

Table 9 and the accompanying graph show the enrollments of students in institutions of higher education in Virginia (fall term, head count, degree-credit students only) for 1950 and from 1953 to 1964, derived from Opening (Fall) Enrollment published each year by the United States Office of Education. The table also projects degree-credit student enrollments for Virginia colleges and universities for each year from 1965 through 1970 and for 1975 and 1980.

Table 9: PROJECTED COLLEGE ENROLLMENTS (DEGREE-CREDIT STUDENTS) TO 1980 FOR VIRGINIA

| Year | Adjusted College-age (18-21) Pool | Percent | Enrollment | | | | | | |
|------|-----------------------------------|---------------|------------|--|------------|---------------|------------|---------------|------------|
| 1950 | 204,000 | 16.5 | 33,666 | Projection #1 - assumes percentage of college-age population enrolled in Virginia colleges will remain the same to 1980 as in 1964. Projection #2 - assumes percentage of college-age population enrolled in Virginia colleges will increase at an annual rate of 1.0 per cent between 1964 and 1980 (average annual rate of increase for Virginia colleges between 1950 and 1964). Projection #3 - assumes percentage of college-age population enrolled in Virginia colleges will increase at an annual rate of 1.2 per cent between 1964 and 1980 (average annual rate of increase for United States between 1950 and 1964). STAFF WORKING PROJECTION. Projection #4 - assumes percentage of college-age population enrolled in Virginia colleges will increase at an annual rate of 1.9 per cent so that Virginia will have the same percentage in college in 1975 as estimates for United States in 1970 (assumes a five year lag for Virginia). | | | | | |
| 1953 | 199,000 | 16.1 | 32,137 | | | | | | |
| 1954 | 197,000 | 20.3 | 40,007 | | | | | | |
| 1955 | 198,000 | 21.7 | 42,977 | | | | | | |
| 1956 | 201,000 | 21.3 | 42,908 | | | | | | |
| 1957 | 204,000 | 24.0 | 48,865 | | | | | | |
| 1958 | 208,000 | 26.0 | 54,104 | | | | | | |
| 1959 | 211,000 | 25.2 | 53,206 | | | | | | |
| 1960 | 217,000 | 26.7 | 57,986 | | | | | | |
| 1961 | 232,000 | 26.7 | 61,908 | | | | | | |
| 1962 | 244,000 | 27.0 | 65,944 | | | | | | |
| 1963 | 254,000 | 28.0 | 71,179 | | | | | | |
| 1964 | 258,000 | 30.2 | 78,041 | | | | | | |
| Year | Adjusted College-age (18-21) Pool | Projection #1 | | Projection #2 | | Projection #3 | | Projection #4 | |
| | | Percent | Enrollment | Percent | Enrollment | Percent | Enrollment | Percent | Enrollment |
| 1965 | 272,000 | 30.2 | 82,144 | 31.2 | 84,864 | 31.4 | 85,408 | 32.1 | 87,312 |
| 1966 | 291,000 | 30.2 | 87,882 | 32.2 | 93,702 | 32.6 | 94,866 | 34.0 | 98,940 |
| 1967 | 307,000 | 30.2 | 92,714 | 33.2 | 101,924 | 33.8 | 103,766 | 35.9 | 110,213 |
| 1968 | 324,000 | 30.2 | 97,848 | 34.2 | 110,808 | 35.0 | 113,400 | 37.8 | 122,472 |
| 1969 | 323,000 | 30.2 | 97,546 | 35.2 | 113,696 | 36.2 | 116,926 | 39.7 | 128,231 |
| 1970 | 323,000 | 30.2 | 97,546 | 36.2 | 116,926 | 37.4 | 120,802 | 41.6 | 134,368 |
| 1975 | 351,000 | 30.2 | 106,002 | 41.2 | 144,612 | 43.4 | 152,334 | 51.1 | 179,361 |
| 1980 | 368,000 | 30.2 | 111,136 | 46.2 | 170,016 | 49.4 | 181,792 | 60.6 | 223,008 |

PROJECTED COLLEGE ENROLLMENTS TO 1980 FOR VIRGINIA



The college-age (18-21 year old) pool is based upon adjusted figures furnished by Dr. Lorin Thompson of the Bureau of Population and Economic Research at the University of Virginia in Staff Report #1. Reductions in census figures for the 18 to 21 year old age group have been made to take into account non-resident military personnel in this age group in the Commonwealth (See Staff Report #1 for technique used). It should also be noted that in making his population projections Dr. Thompson assumed that net out-migration of college-age population will be roughly balanced by in-migration over the next fifteen years; this assumption may introduce a conservative factor in all the enrollment projections. It should also be noted that these enrollment projections are based upon a pattern of migration of college students which found a net balance of 10,000 more Virginians attending institutions outside the Commonwealth in the fall Term of 1963 than there were out-of-state residents in Virginia institutions.¹¹ If this negative net balance changes to a smaller figure, because of restrictions by institutions outside Virginia on non-resident students or for other reasons, more Virginians would have to be accommodated in the State's colleges than the projections in the Report anticipate.

Projection #1 assumes that the percentage of college-age (18-21) population enrolled in Virginia institutions will remain the same in 1980 as it was in 1964, that is 30.2 per cent. Projection #2 assumes that this percentage will increase at an annual rate of 1.0 per cent between 1964 and 1980 (this is the average annual increase in the percentage for Virginia between 1950 and 1964). Projection #3 assumes that this percentage will increase at an annual rate of 1.2 per cent between 1964 and 1980 (this was the average rate of increase for the nation as a whole between 1953 and

¹¹U.S. Office of Education, Bureau of Educational Research and Development, Residence and Migration of College Students, Fall 1963. Washington, D. C., 1963.

1964). Projection #4 assumes that the annual rate of increase in percentage will be 1.8, the rate necessary in order that the percentage for Virginia in 1975 will be the same as the estimated percentage for the nation as a whole in 1970 (assumes that Virginia will have a five-year lag behind the rate of increase for the entire country). The working projection of the Staff is based upon Projection #3 as shown in Table 9.

It should be emphasized again that the projections in Table 9 and the accompanying graph, include all degree-credit students, whether on main campuses, in branches, or pursuing extension credit courses. No attempt has been made to reduce the head count enrollment to full-time equivalent students, since there are no accurate data available for a comparable historical period. It should also be re-emphasized that the 18 to 21 year old age group has been adjusted downward to take into account full-time, non-resident military personnel in this age group who are temporarily assigned to posts in the Commonwealth.

Projection #3, although a conservative one, indicates that within less than a 15-year period, enrollments in Virginia colleges and universities will double and by 1980 will more than double. That this projection may be on the conservative side is indicated by the fact that between 1950 and 1964, a comparable period of time, college enrollments in Virginia, computed on the same basis, rose from 33,666 to 78,041 - a 132 per cent increase. With emphasis upon college-going as related both to increased opportunity and needs and industrial expansion within Virginia, it is certainly reasonable to expect another such development within the next 15 years.

The increase in college-going by Virginians is a result of three factors which should be emphasized: (1) the increase, as a result of rising birth

rates, in the 18-21 year-old population from which most undergraduate students are drawn; (2) the increase in the rate of college-going among this age group; and (3) the larger number of students attending graduate and professional schools after completion of the baccalaureate degree. Virginia is in no sense unique in this respect although its average rate of increase for the past 14 years, as shown in Table 9, has been less than that for the nation as a whole. Even if the most conservative estimate of college enrollments (Projection #1) is accepted, there would be a 50 per cent increase in the number of students in Virginia colleges in the next 15 years.

This Staff Report #2 has given an over-all picture of the development of higher education in Virginia as it stands in 1965 and as it relates to some economic and social factors. It also has suggested areas in which Virginia's colleges and universities have attained the 2.0 per cent population and economic standard which was set forth at the beginning and others in which the Commonwealth's programs of higher education appear to have deficiencies. Enrollment projections to 1980, no matter how conservative, indicate that challenge and opportunity confront Virginia's state and privately controlled institutions in the years ahead.

Summary and Conclusions

The purpose of Staff Report #2 is to provide some measure of Virginia's performance in higher education as it relates to some economic and social factors and to examine the state-wide distribution of colleges and universities within the Commonwealth. The Report is designed to provide factual information without necessarily drawing any conclusions as to possible action which should or might be taken. Some of the main conclusions and observations which can be made on the basis of the preceding discussion are as follows:

1. By all population indices, the Commonwealth of Virginia has over 2.2 per cent of the national totals. This is true for total population in 1960, estimated total population in 1964, estimated total births in 1963, and college-age (18-21) population in 1960. In most indices of economic development, however, Virginia is slightly below 2 per cent of the national totals. Considering these two facts, one might expect that Virginia's performance in education would approximate 2 per cent of national performance.
2. In areas of taxation, Virginia is significantly below 2 per cent of the national figures. Only in payments by the Federal Government to State and local governments does Virginia come close to the 2 per cent standard which has been used throughout this Report.
3. Median number of school years completed by persons 25 years of age or older in 1960 was 9.9 for Virginia as a whole, but there were wide variations among the counties within the Commonwealth, ranging from 12.8 to 6.5 years. Figures are shown for each County and Independent City in Virginia.
4. In most of the areas measuring financial support for schools and colleges, Virginia stood very much below the 2 per cent standard, noted

above, for the past several years. This was especially true in the area of higher education.

5. Virginia's colleges and universities enrolled a significantly lower percentage of the total number of the nation's college students in the Fall of 1964 than its 2.0 per cent population and economic ratio would have predicted. For the Virginia colleges and universities to have enrolled 2.0 per cent of the nation's college students in the Fall of 1964 would have required an increase of 25,000 students over the number the Virginia institutions actually enrolled. This would have been approximately the equivalent of the total main campus enrollments of the University of Virginia, Virginia Polytechnic Institute, Old Dominion College, and Richmond Professional Institute combined, or a doubling of the four institutions with the largest enrollments in Virginia.

6. Degree production over the past six years in Virginia institutions of higher education has shown a deficiency at the baccalaureate, master's and doctoral levels. The percentage of the nation's bachelor's or first professional degrees was about 1.6 per cent, but the greatest deficiency was in the graduate programs. Virginia's universities awarded less than 1 per cent of the national totals of either the master's or doctorate degrees.

7. The Study of Higher Education in Virginia has brought to light the difficulties in defining what is meant by an institution of higher education within the Commonwealth. Although these difficulties are perhaps not insurmountable, public confusion may well exist when the terms "college or university" are used. The Commonwealth needs to be on guard against the operation of "degree-mills," outlawed by statute but always a troublesome problem.

8. Institutions attended exclusively or predominantly by a single sex

are a part of the present pattern of development in Virginia. One-third of the state controlled and over one-half of the privately controlled colleges are essentially single-sex institutions. The newer state controlled institutions, however, have practically all been established for a coeducational student body. There is some tendency to break away from the single-sex pattern, particularly at Virginia Polytechnic Institute and also at Madison College. But the grip of the single-sex tradition is still strong in other Virginia institutions, contrary to the development in most other states which in earlier years followed that pattern.

9. The colleges and universities under state control in Virginia are relatively small, as compared with institutions of similar types in other states. No institution of higher education in Virginia, either state or privately controlled, would be considered large by modern standards in the United States.

10. The institutions of higher education in Virginia are not well distributed geographically to serve the various local areas of the State. Particularly conspicuous is the lack of any degree-granting college, either state or privately controlled, in northern Virginia, where there is a heavy and rapidly increasing concentration of urban population. The major Virginia institutions that offer graduate degrees are located generally in small communities away from urban centers; the concentrations of urban population, which can be expected to produce large numbers of graduate students who want to continue their education on a part-time basis, have no institution in Virginia that such students can conveniently attend.

11. Programs and institutions offering graduate training at the master's and doctoral levels are not very numerous in the Commonwealth. No privately controlled institution offers professional training in the field of engineering

Programs in elementary education for men are not well provided by state controlled institutions.

12. Utilizing different assumptions about the rate of future increases in attendance at Virginia's colleges and universities to 1980, the Commission's Staff has made four different enrollment projections. The projection which seems the most realistic, though perhaps still conservative, shows that within less than a 15-year period, enrollments in Virginia colleges and universities will double, and by 1980 will more than double. Between 1950 and 1964 college enrollments in Virginia increased 132 per cent; the prospective increases during the coming fifteen years are not at a greater rate than that which the state has experienced in the past fifteen-year period.

**VIRGINIA INSTITUTIONS OF HIGHER EDUCATION
ACCREDITED BY THE STATE BOARD OF EDUCATION, SESSION 1964-65
Richmond, Virginia**

10/29/64

FOUR-YEAR COLLEGES AND UNIVERSITIES

Under State Control

| <u>Institution</u> | <u>President</u> | <u>Address</u> |
|--|---|-----------------|
| The College of William and Mary in Virginia (Coed) | Dr. Davis Y. Paschall | Williamsburg |
| Longwood College (Women) | Dr. F. G. Lankford, Jr. | Farmville |
| Madison College (Women) | Dr. G. Tyler Miller | Harrisonburg |
| Mary Washington College of the University of Virginia (Women) | Dr. Grellet C. Simpson, C Chancellor | Fredericksburg |
| Medical College of Virginia (Coed) | Dr. R. Blackwell Smith, Jr. | Richmond |
| Norfolk Division, Virginia State College (Coed) | Dr. Lyman B. Brooks, Provost | Norfolk |
| Old Dominion College (Coed) | Lewis Warrington Webb, Jr. | Norfolk |
| Radford College (Women) | Dr. Charles K. Martin, Jr. | Radford |
| Richmond Professional Institute (Coed) | Dr. George J. Oliver | Richmond |
| University of Virginia (Coed) | Dr. Edgar Finley Shannon, Jr. | Charlottesville |
| Virginia Military Institute (Men) | Major General George R. E. Shell, Superintendent | Lexington |
| Virginia Polytechnic Institute (Coed) | Dr. T. Marshall Hahn, Jr. | Blacksburg |
| Virginia State College (Coed) | Dr. Robert P. Daniel | Petersburg |

Under Private Control

| | | |
|--|----------------------------------|-----------------|
| Bridgewater College (Coed) | Dr. Wayne F. Geisert | Bridgewater |
| Eastern Mennonite College (Coed) | Rev. John R. Mumaw | Harrisonburg |
| Emory and Henry College (Coed) | Dr. Daniel G. Leidig, Acting | Emory |
| Frederick College (Coed) | Dr. M. E. Alford | Portsmouth |
| Hampden-Sydney College (Men) | Dr. W. Taylor Reveley | Hampden-Sydney |
| Hampton Institute | Dr. Jerome H. Holland | Hampton |
| Hollins College (Women) | Dr. John A. Logan, Jr. | Hollins College |
| Lynchburg College (Coed) | Dr. Carey Brewer | Lynchburg |
| Mary Baldwin College (Women) | Dr. Samuel R. Spencer, Jr. | Staunton |
| Presbyterian School of Christian Education (Coed) | Dr. Charles E. S. Kraemer | Richmond |
| Randolph-Macon College (Men) | Dr. J. Earl Moreland | Ashland |
| Randolph-Macon Woman's College | Dr. William F. Quillian, Jr. | Lynchburg |
| Roanoke College (Coed) | Dr. Perry F. Kendig | Salem |
| St. Paul's College (Coed) | Dr. Earl H. McClenney | Lawrenceville |
| Shenandoah Conservatory of Music** (Coed) | Dr. Forrest S. Racey | Winchester |
| Sweet Briar College (Women) | Dr. Anne Gary Pannell | Sweet Briar |
| University of Richmond | Dr. George M. Modlin, Pres. | Richmond |
| Richmond College (Men) | Dr. Robert F. Smart, Dean | |
| University College (Coed) | Dr. Martin L. Sholtzberger, Dean | |
| Westhampton College (Women) | Dr. Marguerite Roberts, Dean | |
| Virginia Union University (Coed) | Dr. Thomas H. Henderson | Richmond |
| Washington and Lee University (Men) | Dr. Fred C. Cole | Lexington |
| Institute of Textile Technology*** (Men) | William C. Harris | Charlottesville |

(Continued)

TWO-YEAR COLLEGES AND TECHNICAL INSTITUTES

Under State Control

| <u>Institution</u> | <u>President</u> | <u>Address</u> |
|---|-----------------------------------|-----------------------------------|
| Christopher Newport College of The College of William and Mary (Coed) | H. Wescott Cunningham, Director | Shoe Lane, Newport News |
| Clifton Forge-Covington Area Community College, A Branch of Virginia Polytechnic Institute (Coed) | Dr. D. E. Puyear, Director | Clifton Forge |
| Clinch Valley College of the University of Virginia (Coed) | J. C. Smiddy, Director | Box 507, Wise |
| Danville Community College, A Branch of Virginia Polytechnic Institute (Coed) | Joseph M. Taylor, Director | Danville |
| George Mason College of the University of Virginia (Coed) | Dr. Robert H. Reid, Director | Bailey's Crossroads |
| Lynchburg Branch of the University of Virginia (Coed) | Hartwell S. Evans, Director | Lynchburg |
| Patrick Henry College of the University of Virginia (Coed) | Sherman S. Dutton, Director | Martinsville |
| Richard Bland College of The College of William and Mary (Coed) | Colonel James M. Carson, Director | Petersburg |
| Roanoke Technical Institute, A Branch of Virginia Polytechnic Institute (Coed) | | 3098 Colonial Ave., S.W., Roanoke |
| The Technical Institute of Old Dominion College (Coed) | K. A. Kovner, Director | Norfolk |
| Wytheville Area Community College, A Branch of Virginia Polytechnic Institute (Coed) | S. T. Moseley, Director | Wytheville |

Under Private Control

| | | |
|---|--|--------------|
| Apprentice School of the Newport News Shipbuilding and Dry Dock Company (Men) | D. Boyd Thomas, Director of Education and Training | Newport News |
|---|--|--------------|

JUNIOR COLLEGESUnder Private Control

| | | |
|--|-----------------------------|-------------|
| Averett College (Women) | Dr. Curtis Bishop | Danville |
| Bluefield College (Coed) | Dr. Charles L. Harman | Bluefield |
| Ferrum Junior College (Coed) | Dr. C. Ralph Arthur | Ferrum |
| Marion College (Women) | Dr. John H. Fray | Marion |
| Marymount College of Virginia (Women) | Mother M. Majella, R.S.H.M. | Arlington |
| Shenandoah College (Coed) | Dr. Forest S. Racey | Winchester |
| Southern Seminary and Junior College (Women) | Margaret Durham Robey | Buena Vista |
| Stratford College (Women) | Dr. W. Hugh Moomaw | Danville |
| Swilins College (Women) | William T. Martin | Bristol |
| Virginia Intermont College (Women) | Dr. Floyd V. Turner | Bristol |
| Virginia Seminary and College (Coed) | Dr. M. C. Allen | Lynchburg |

*Primarily a college for women, but a limited number of men are admitted as day students under a special regulation of the State Board of Education.

**Recognized as a four-year, degree-granting institution for music only.

***Accredited for the granting only of Master of Science and Doctor of Philosophy Degrees in Textile Technology.

Locations of Off-Campus Extension Centers*

University of Virginia

Abingdon Center - Abingdon, Virginia
Hampton Roads Center - Norfolk
Martinsville Center - Patrick Henry College, Martinsville
Northern Virginia Center - Arlington
Richmond Center - Richmond
Roanoke Center - Roanoke
Eastern Shore Center - Eastern Shore Branch, Wallops Island
Lynchburg Center - Lynchburg Branch, Lynchburg
Madison Field Office - Madison
Valley Field Office - Waynesboro-Staunton

Virginia Polytechnic Institute

Clifton Forge-Covington Center - Clifton Forge-Covington Community College, Clifton Forge
Danville Center - Danville Community College, Danville
Roanoke Center - Roanoke Technical Institute, Roanoke
Wytheville Center - Wytheville Community College, Wytheville

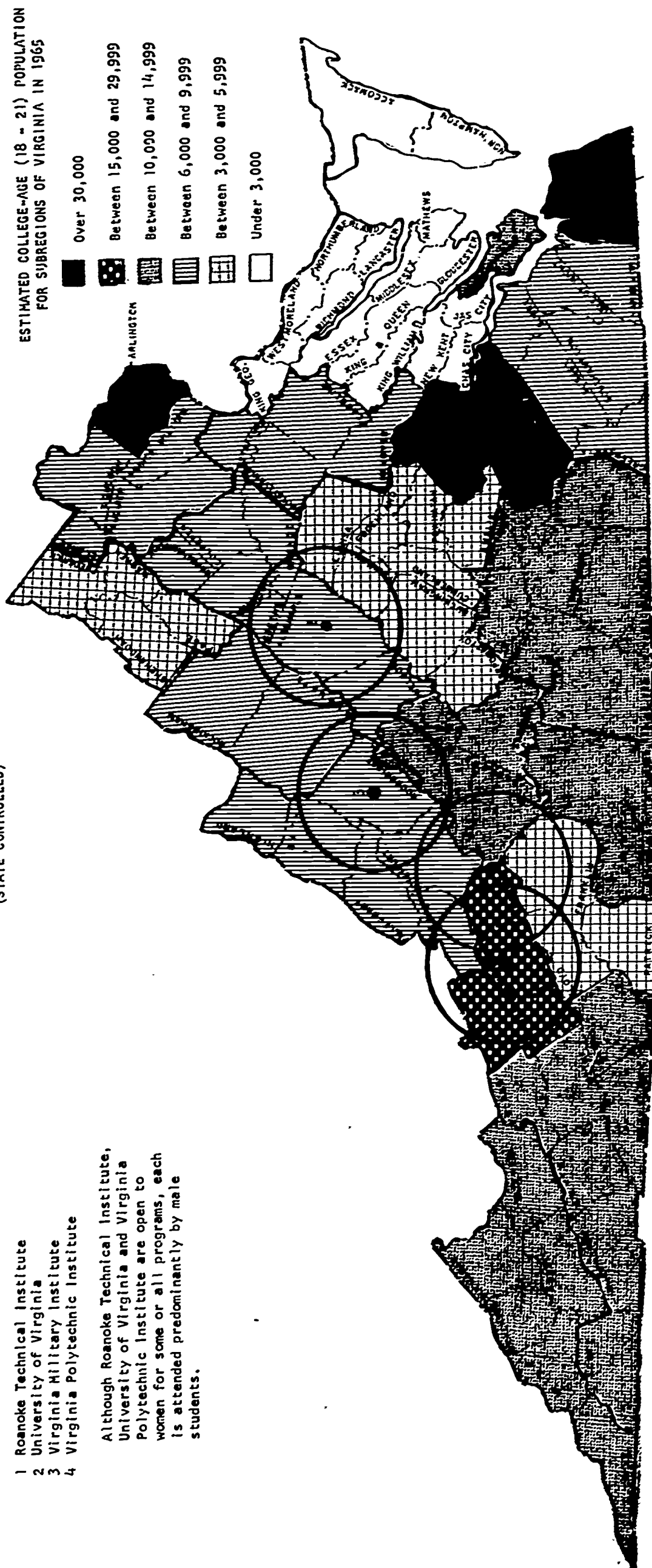
The College of William and Mary

Lower Peninsula Center - Hampton
Princess Anne Center - Virginia Beach
Portsmouth-Norfolk Center - Portsmouth
Hopewell-Petersburg Center - Hopewell
Richmond-Henrico Center - Richmond

* This list does not include Centers or Evening Schools on the main campus offering "extension" programs.

- 1 Roanoke Technical Institute
- 2 University of Virginia
- 3 Virginia Military Institute
- 4 Virginia Polytechnic Institute

Although Roanoke Technical Institute, University of Virginia and Virginia Polytechnic Institute are open to women for some or all programs, each is attended predominantly by male students.

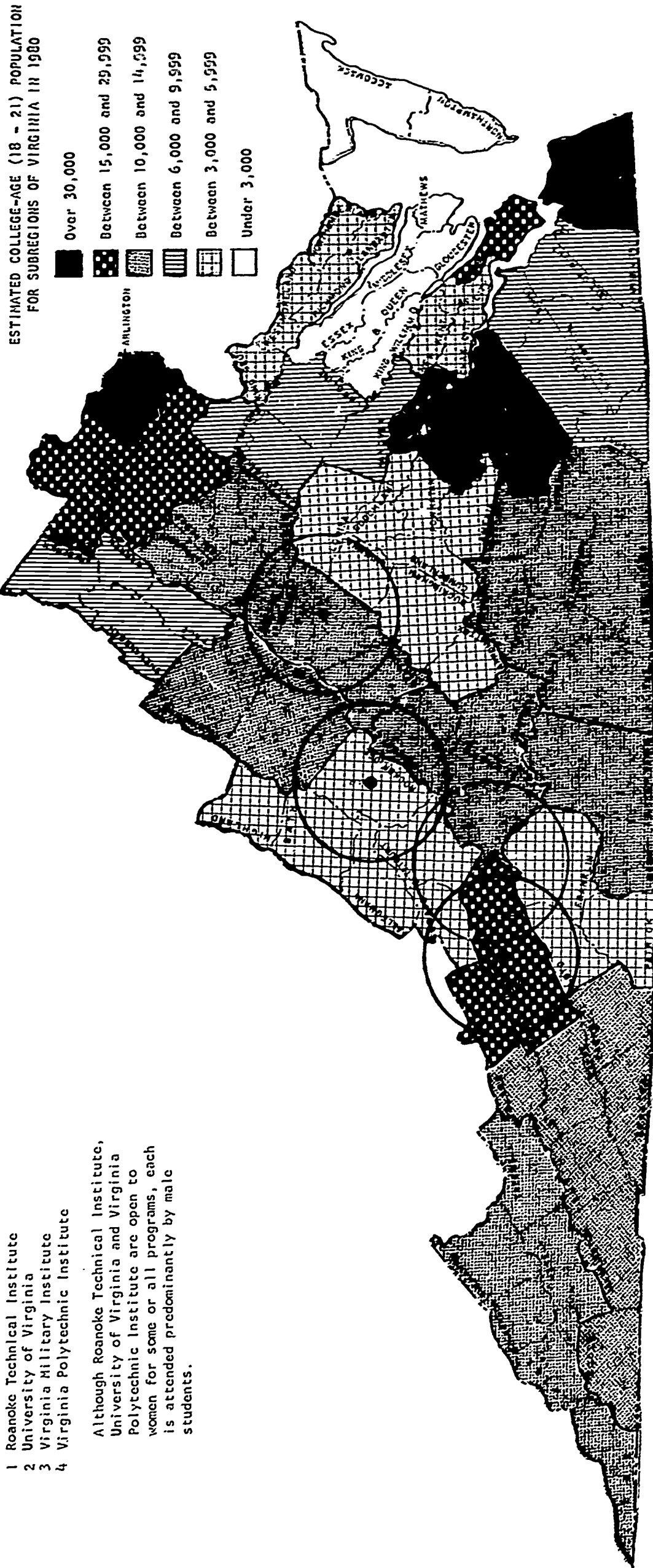


Circles outline service area with radius of 25 miles from institutional location.

MAP 2
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION WHICH ARE PREDOMINANTLY OR EXCLUSIVELY FOR MEN
(STATE CONTROLLED)

- 1 Roanoke Technical Institute
- 2 University of Virginia
- 3 Virginia Military Institute
- 4 Virginia Polytechnic Institute

Although Roanoke Technical Institute, University of Virginia and Virginia Polytechnic Institute are open to women for some or all programs, each is attended predominantly by male students.



Circles outline service area with radius of 25 miles from institutional location.

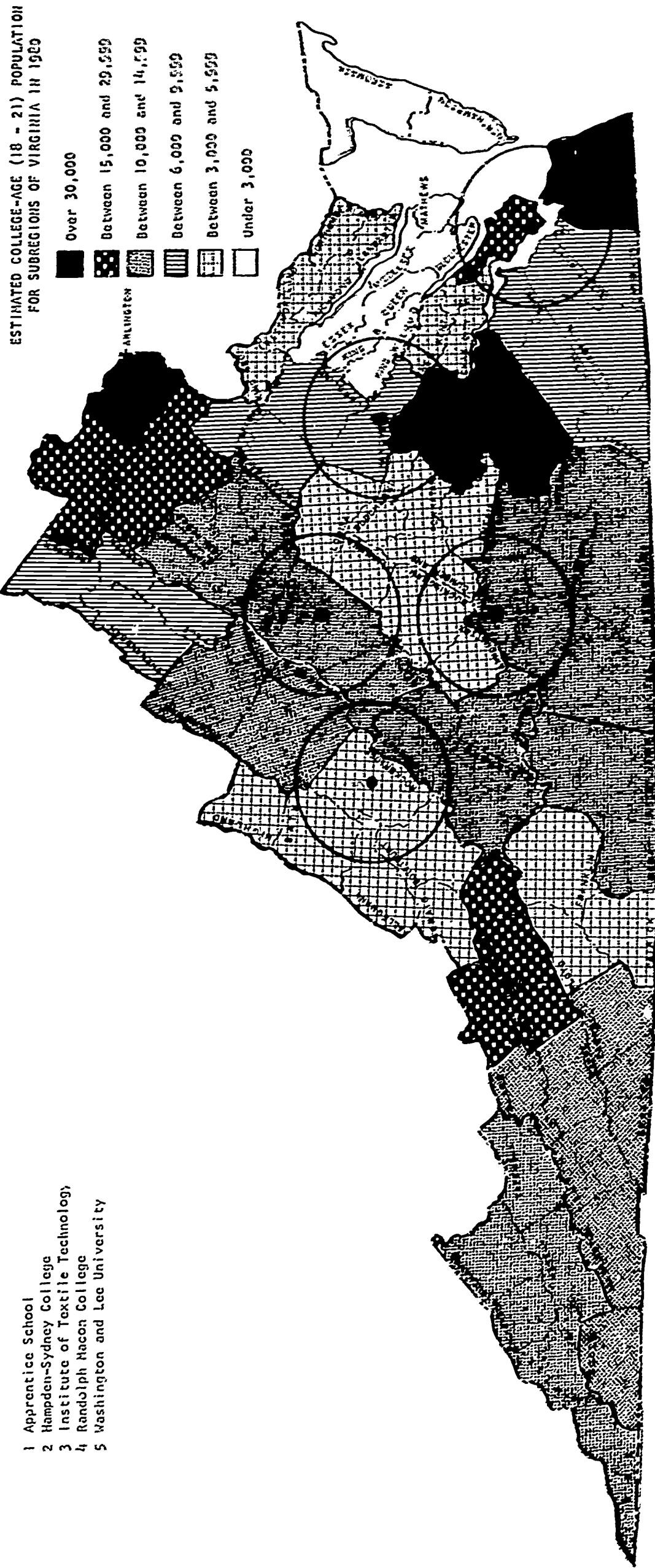
- 1 Apprentice School
- 2 Hampden-Sydney College
- 3 Institute of Textile Technology
- 4 Randolph Macon College
- 5 Washington and Lee University



| | Over 30,000 | Between 15,000 and 29,999 | Between 10,000 and 14,999 | Between 6,000 and 9,999 | Between 3,000 and 5,999 | Under 3,000 |
|--------|-------------|---------------------------|---------------------------|-------------------------|-------------------------|-------------|
| Black | 100 | 100 | 100 | 100 | 100 | 100 |
| Red | 100 | 100 | 100 | 100 | 100 | 100 |
| Green | 100 | 100 | 100 | 100 | 100 | 100 |
| Blue | 100 | 100 | 100 | 100 | 100 | 100 |
| Yellow | 100 | 100 | 100 | 100 | 100 | 100 |
| Pink | 100 | 100 | 100 | 100 | 100 | 100 |
| White | 100 | 100 | 100 | 100 | 100 | 100 |

MAP 4
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION WHICH ARE PREDOMINANTLY OR EXCLUSIVELY FOR MEN
(PRIVATELY CONTROLLED)

- 1 Apprentice School
- 2 Hampden-Sydney College
- 3 Institute of Textile Technology
- 4 Randolph Macon College
- 5 Washington and Lee University



Circles outline service area with radius of 25 miles from institutional location.

MAP 5
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION WHICH ARE PREDOMINANTLY OR EXCLUSIVELY FOR MEN
(STATE AND PRIVATELY CONTROLLED)

- 1 Apprentice School
- 2 Hampden-Sydney College
- 3 Institute of Textile Technology
- 4 Randolph Macon College
- 5 Roanoke Technical Institute
- 6 University of Virginia
- 7 Virginia Military Institute
- 8 Virginia Polytechnic Institute
- 9 Washington and Lee University

Although Roanoke Technical Institute, University of Virginia and Virginia Polytechnic Institute are open to women for some or all programs, each is attended predominantly by male students.



Circles outline service area with radius of 25 miles from institutional location.

MAP 6
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION WHICH ARE PREDOMINANTLY OR EXCLUSIVELY FOR MEN
(STATE AND PRIVATELY CONTROLLED)

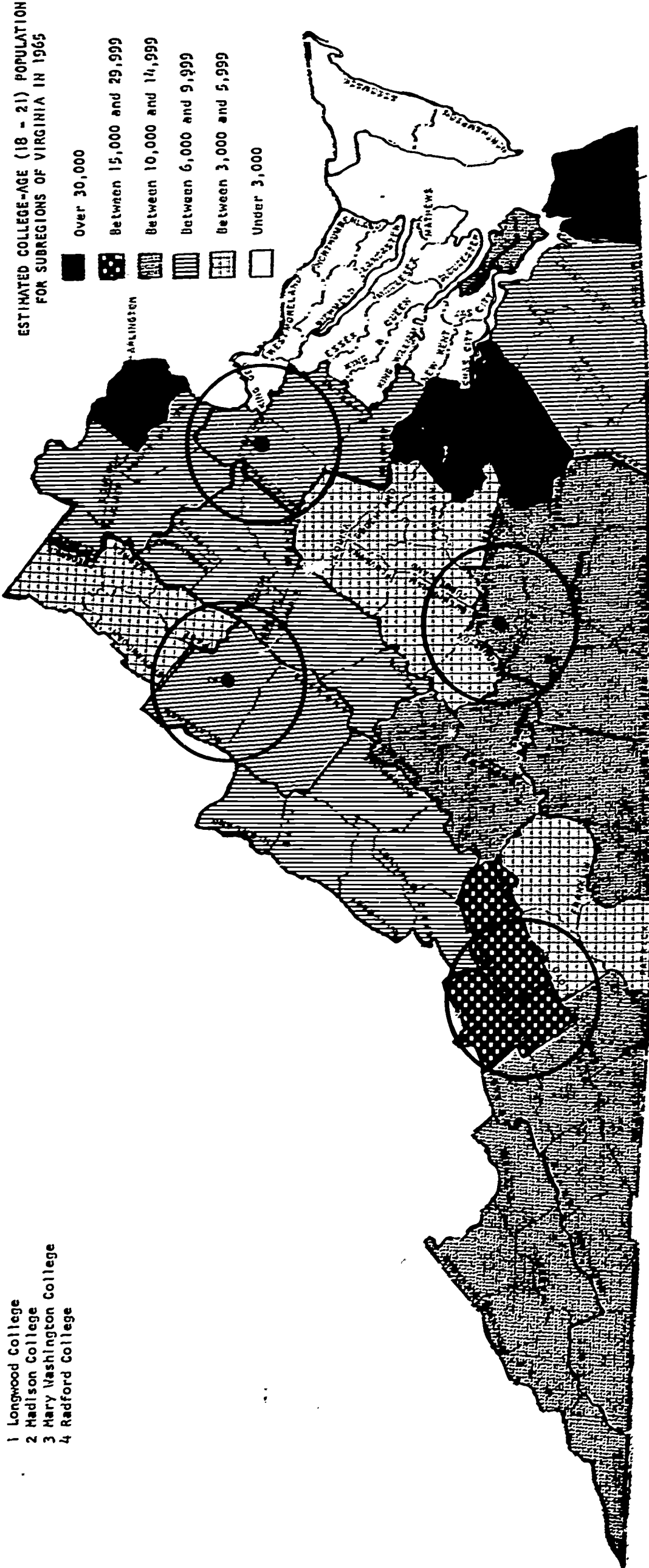
- 1 Apprentice School
- 2 Hampden-Sydney College
- 3 Institute of Textile Technology
- 4 Randolph Macon College
- 5 Roanoke Technical Institute
- 6 University of Virginia
- 7 Virginia Military Institute
- 8 Virginia Polytechnic Institute
- 9 Washington and Lee University

Although Roanoke Technical Institute, University of Virginia and Virginia Polytechnic Institute are open to women for some or all programs, each is attended predominantly by male students.



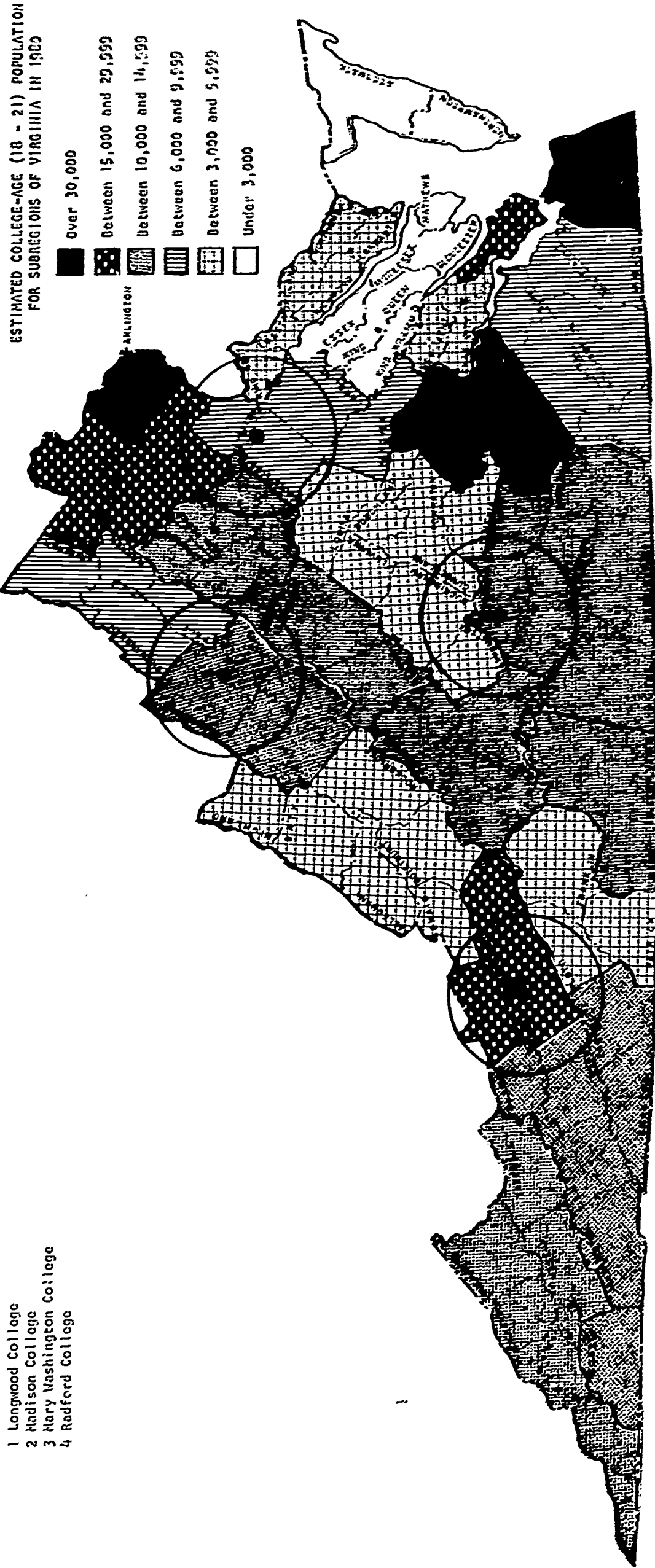
Circles outline service area with radius of 25 miles from institutional location.

MAP 7
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION WHICH ARE PREDOMINANTLY OR EXCLUSIVELY FOR WOMEN
(STATE CONTROLLED)



MAP 8
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION WHICH ARE PREDOMINANTLY OR EXCLUSIVELY FOR WOMEN
(STATE CONTROLLED)

- 1 Longwood College
- 2 Madison College
- 3 Mary Washington College
- 4 Radford College



Circles outline service area with radius of 25 miles from institutional location.

MAP 9
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION WHICH ARE PREDOMINANTLY OR EXCLUSIVELY FOR WOMEN
(PRIVATELY CONTROLLED)

- 1 Averett College
- 2 Hollins College
- 3 Marion College
- 4 Mary Baldwin College
- 5 Marymount College of Virginia
- 6 Randolph Macon Woman's College
- 7 Southern Seminary Junior College
- 8 Stratford College
- 9 Sullins College
- 10 Sweet Briar College
- 11 Virginia Interment College



Circles outline service area with radius of 25 miles from institutional location.

MAP 10
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION WHICH ARE PREDOMINANTLY OR EXCLUSIVELY FOR WOMEN
(PRIVATELY CONTROLLED)

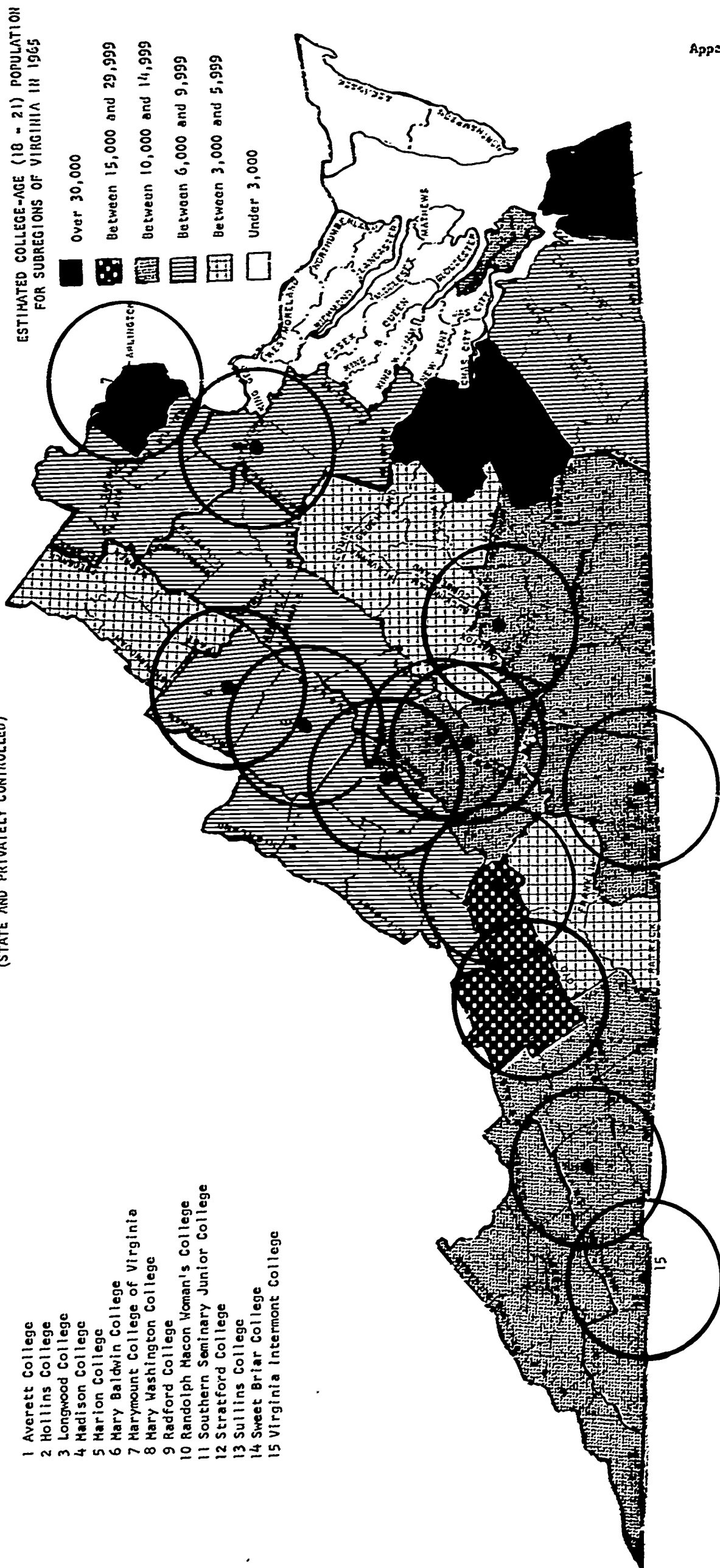
- 1 Averett College
- 2 Hollins College
- 3 Marion College
- 4 Mary Baldwin College
- 5 Marymount College of Virginia
- 6 Randolph Macon Woman's College
- 7 Southern Seminary Junior College
- 8 Stratford College
- 9 Sullins College
- 10 Sweet Briar College
- 11 Virginia Interment College



Circles outline service area with radius of 25 miles from institutional location.

MAP 11
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION WHICH ARE PREDOMINANTLY OR EXCLUSIVELY FOR WOMEN
(STATE AND PRIVATELY CONTROLLED)

- 1 Averett College
- 2 Hollins College
- 3 Longwood College
- 4 Madison College
- 5 Marion College
- 6 Mary Baldwin College
- 7 Marymount College of Virginia
- 8 Mary Washington College
- 9 Radford College
- 10 Randolph Macon Woman's College
- 11 Southern Seminary Junior College
- 12 Stratford College
- 13 Sullins College
- 14 Sweet Briar College
- 15 Virginia Interment College

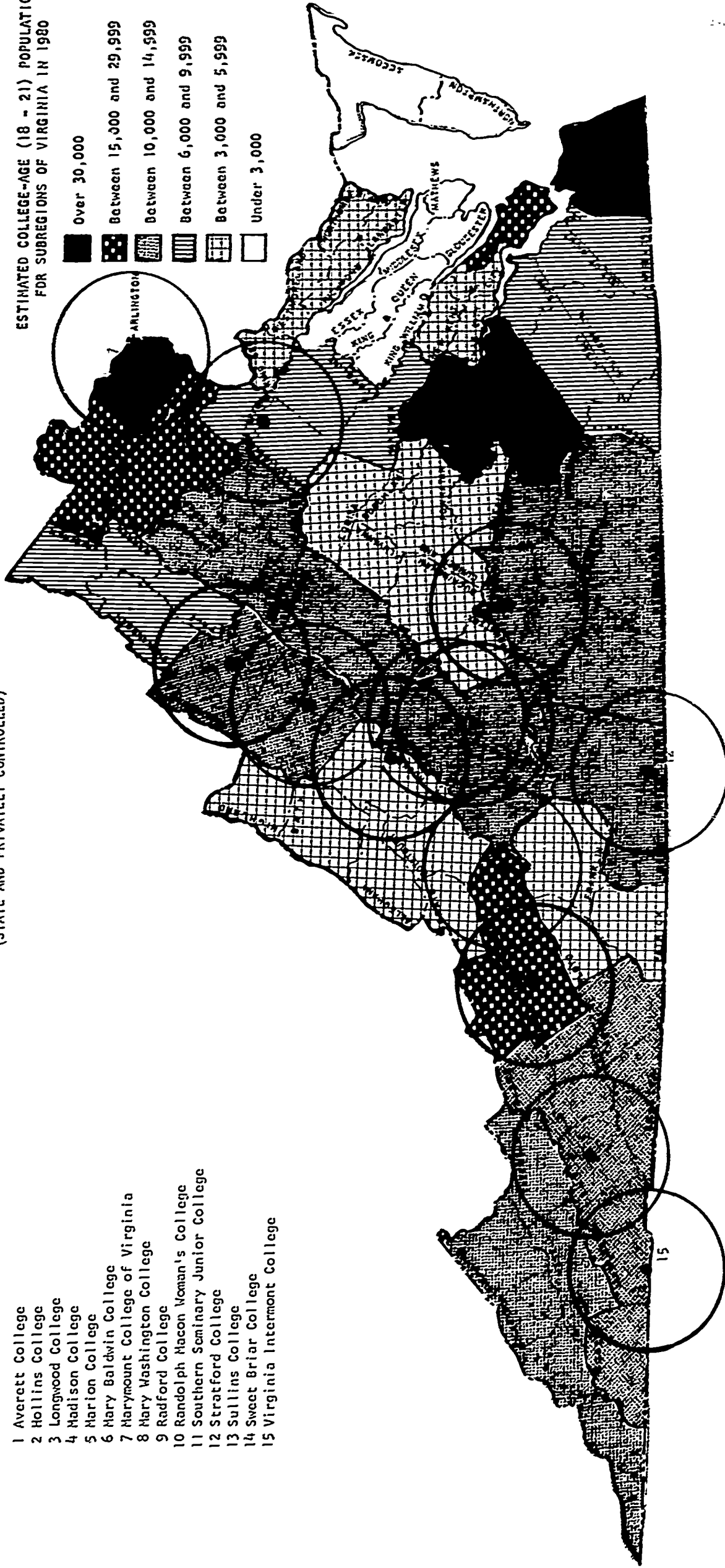
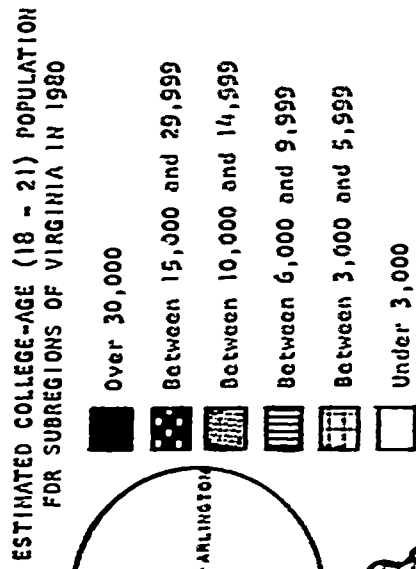


Circles outline service area with radius of 25 miles from institutional location.

MAP 12

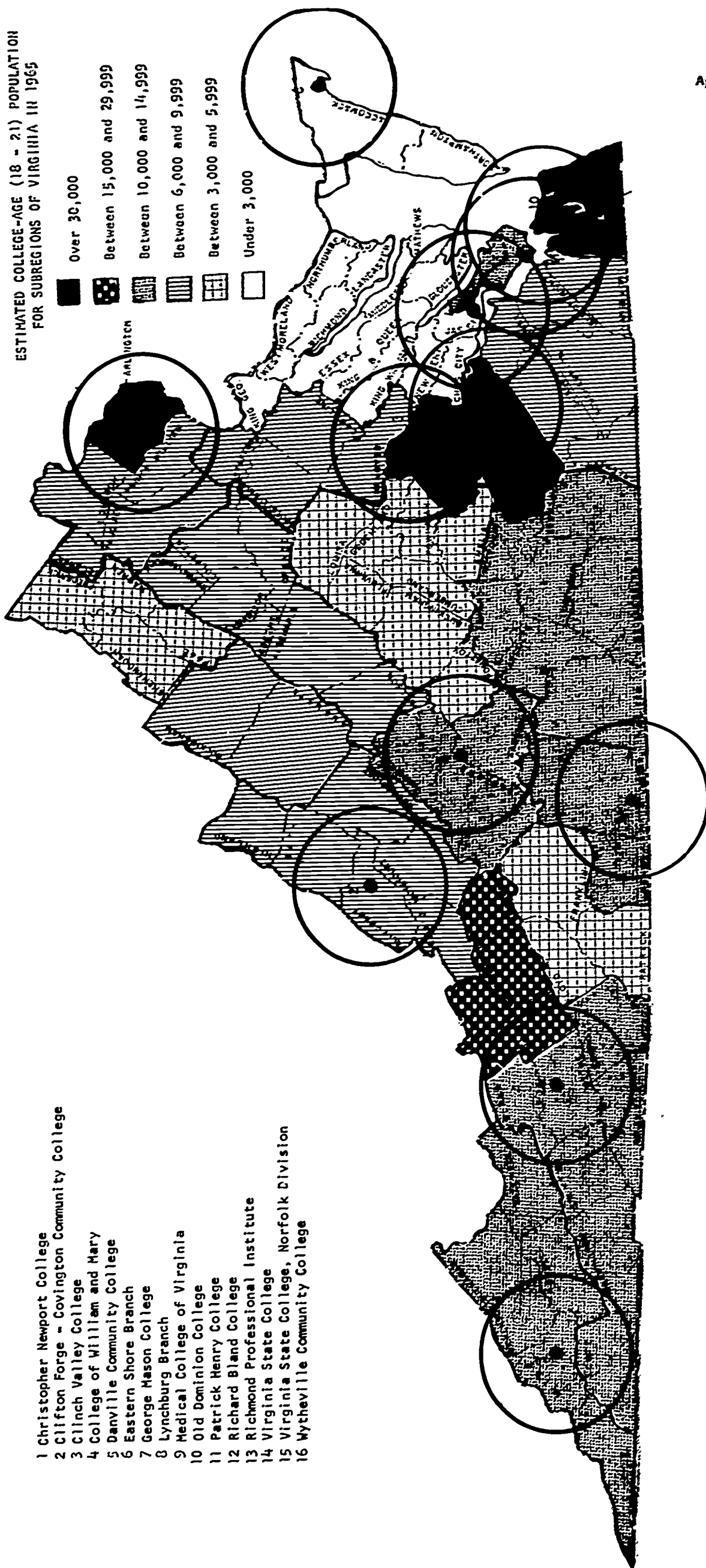
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION WHICH ARE PREDOMINANTLY OR EXCLUSIVELY FOR WOMEN
(STATE AND PRIVATELY CONTROLLED)

- 1 Averett College
- 2 Hollins College
- 3 Longwood College
- 4 Madison College
- 5 Marion College
- 6 Mary Baldwin College
- 7 Marymount College of Virginia
- 8 Mary Washington College
- 9 Radford College
- 10 Randolph Macon Woman's College
- 11 Southern Seminary Junior College
- 12 Stratford College
- 13 Sullins College
- 14 Sweet Briar College
- 15 Virginia Interment College



Circles outline service area with radius of 25 miles from institutional location.

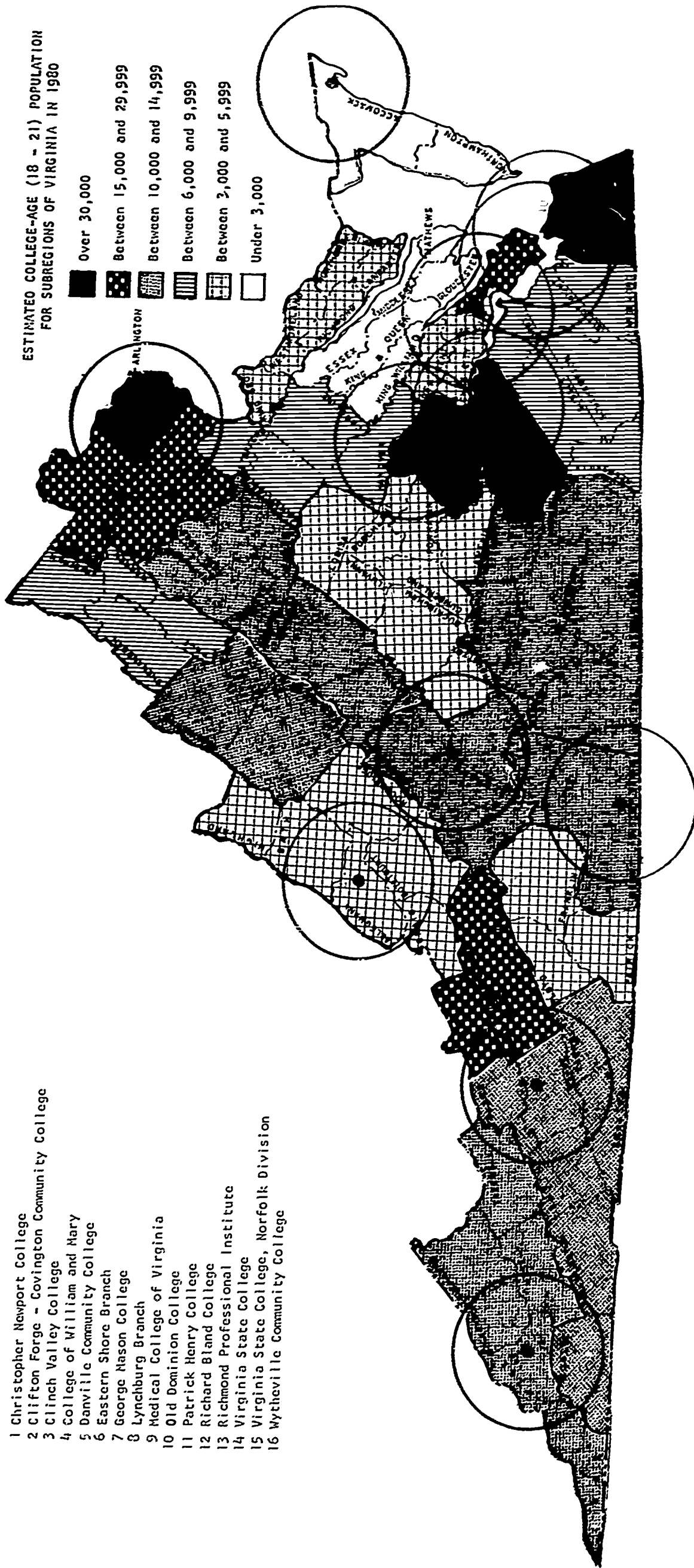
MAP 13
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION WHICH ARE COEDUCATIONAL
(STATE CONTROLLED)



Circles outline service area with radius of 25 miles from institutional location.

MAP 14
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION WHICH ARE COEDUCATIONAL
(STATE CONTROLLED)

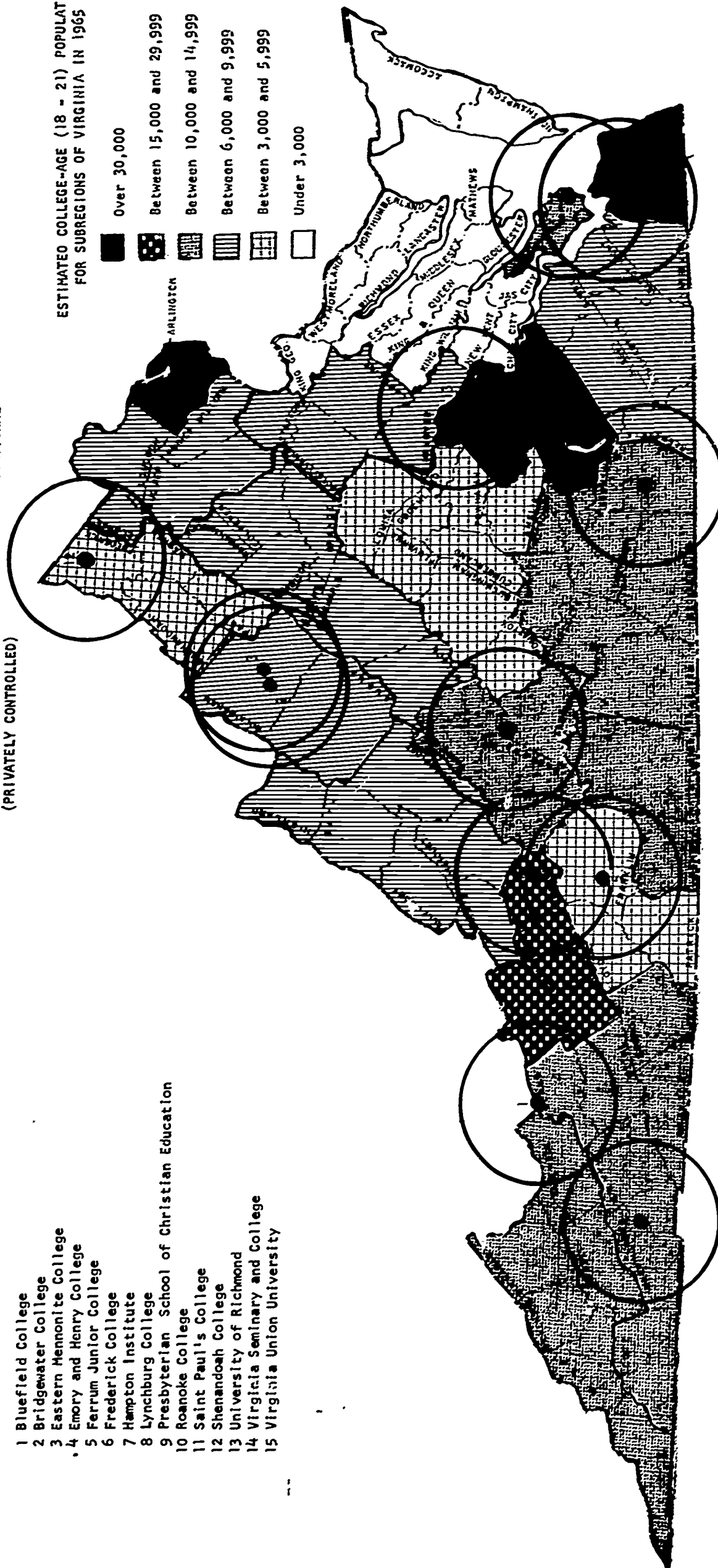
- 1 Christopher Newport College
- 2 Clifton Forge - Covington Community College
- 3 Clinch Valley College
- 4 College of William and Mary
- 5 Danville Community College
- 6 Eastern Shore Branch
- 7 George Mason College
- 8 Lynchburg Branch
- 9 Medical College of Virginia
- 10 Old Dominion College
- 11 Patrick Henry College
- 12 Richard Bland College
- 13 Richmond Professional Institute
- 14 Virginia State College
- 15 Virginia State College, Norfolk Division
- 16 Wytheville Community College



Circles outline service area with radius of 25 miles from institutional location.

- 1 Bluefield College
- 2 Bridgewater College
- 3 Eastern Mennonite College
- 4 Emory and Henry College
- 5 Ferrum Junior College
- 6 Frederick College
- 7 Hampton Institute
- 8 Lynchburg College
- 9 Presbyterian School of Christian Education
- 10 Roanoke College
- 11 Saint Paul's College
- 12 Shenandoah College
- 13 University of Richmond
- 14 Virginia Seminary and College
- 15 Virginia Union University

ESTIMATED COLLEGE-AGE (18 - 21) POPULATION
FOR SUBREGIONS OF VIRGINIA IN 1965



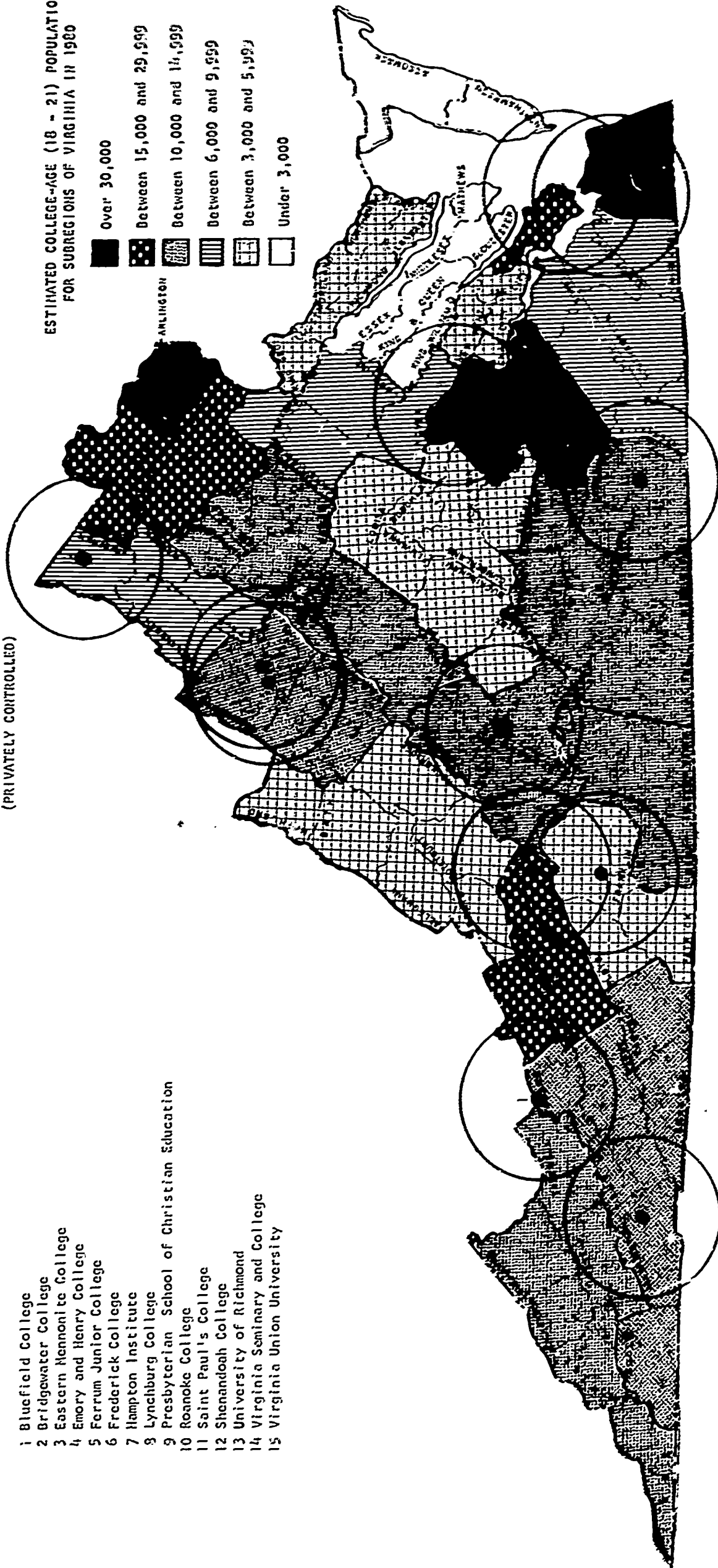
Circles outline service area with radius of 25 miles from institutional location.

MAP 16
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION WHICH ARE COEDUCATIONAL
(PRIVATELY CONTROLLED)

- 1 Bluefield College
- 2 Bridgewater College
- 3 Eastern Mennonite College
- 4 Emory and Henry College
- 5 Ferrum Junior College
- 6 Frederick College
- 7 Hampton Institute
- 8 Lynchburg College
- 9 Presbyterian School of Christian Education
- 10 Roanoke College
- 11 Saint Paul's College
- 12 Shenandoah College
- 13 University of Richmond
- 14 Virginia Seminary and College
- 15 Virginia Union University

ESTIMATED COLLEGE-AGE (18 - 21) POPULATION
FOR SUBREGIONS OF VIRGINIA IN 1960

| | | | | | |
|-------------|---------------------------|---------------------------|-------------------------|-------------------------|-------------|
| Over 30,000 | Between 15,000 and 29,999 | Between 10,000 and 14,999 | Between 6,000 and 9,999 | Between 3,000 and 5,999 | Under 3,000 |
|-------------|---------------------------|---------------------------|-------------------------|-------------------------|-------------|









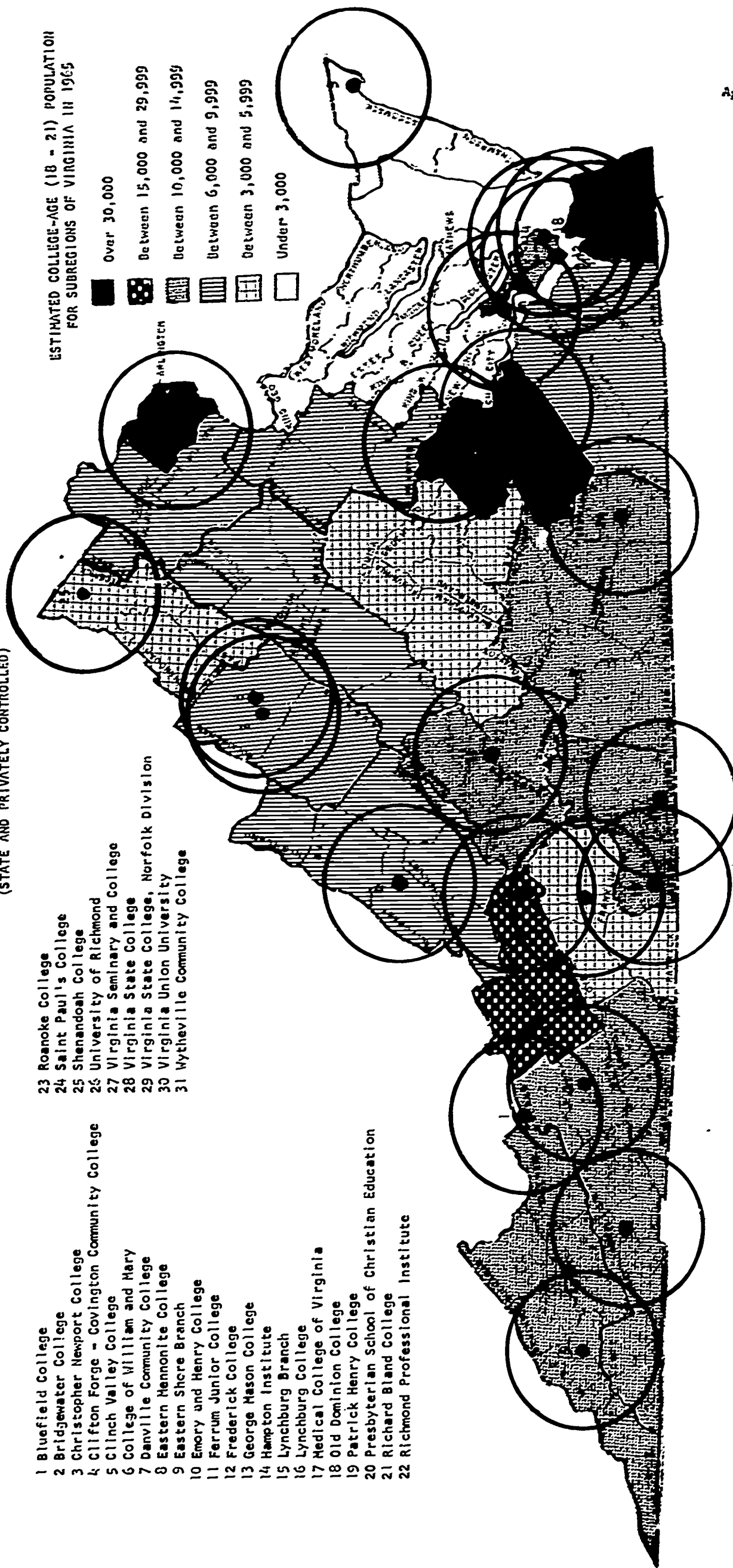
Circles outline service area with radius of 25 miles from institutional location.

MAP 17

- 1 Bluefield College
- 2 Bridgewater College
- 3 Christopher Newport College
- 4 Clifton Forge - Covington Community College
- 5 Clinch Valley College
- 6 College of William and Mary
- 7 Danville Community College
- 8 Eastern Mennonite College
- 9 Eastern Shore Branch
- 10 Emory and Henry College
- 11 Ferrum Junior College
- 12 Frederick College
- 13 George Mason College
- 14 Hampton Institute
- 15 Lynchburg Branch
- 16 Lynchburg College
- 17 Medical College of Virginia
- 18 Old Dominion College
- 19 Patrick Henry College
- 20 Presbyterian School of Christian Education
- 21 Richard Bland College
- 22 Richmond Professional Institute

- 23 Roanoke College
- 24 Saint Paul's College
- 25 Shenandoah College
- 26 University of Richmond
- 27 Virginia Seminary and College
- 28 Virginia State College
- 29 Virginia State College, Norfolk Division
- 30 Virginia Union University
- 31 Wytheville Community College

| ESTIMATED COLLEGE-AGE (18 - 21) POPULATION FOR SUBREGIONS OF VIRGINIA IN 1965 | |
|---|---------------------------|
|  | Over 30,000 |
|  | Between 15,000 and 29,999 |
|  | Between 10,000 and 14,999 |
|  | Between 6,000 and 9,999 |
|  | Between 3,000 and 5,999 |
|  | Under 3,000 |



Circles outline service area with radius of 25 miles from institutional location.

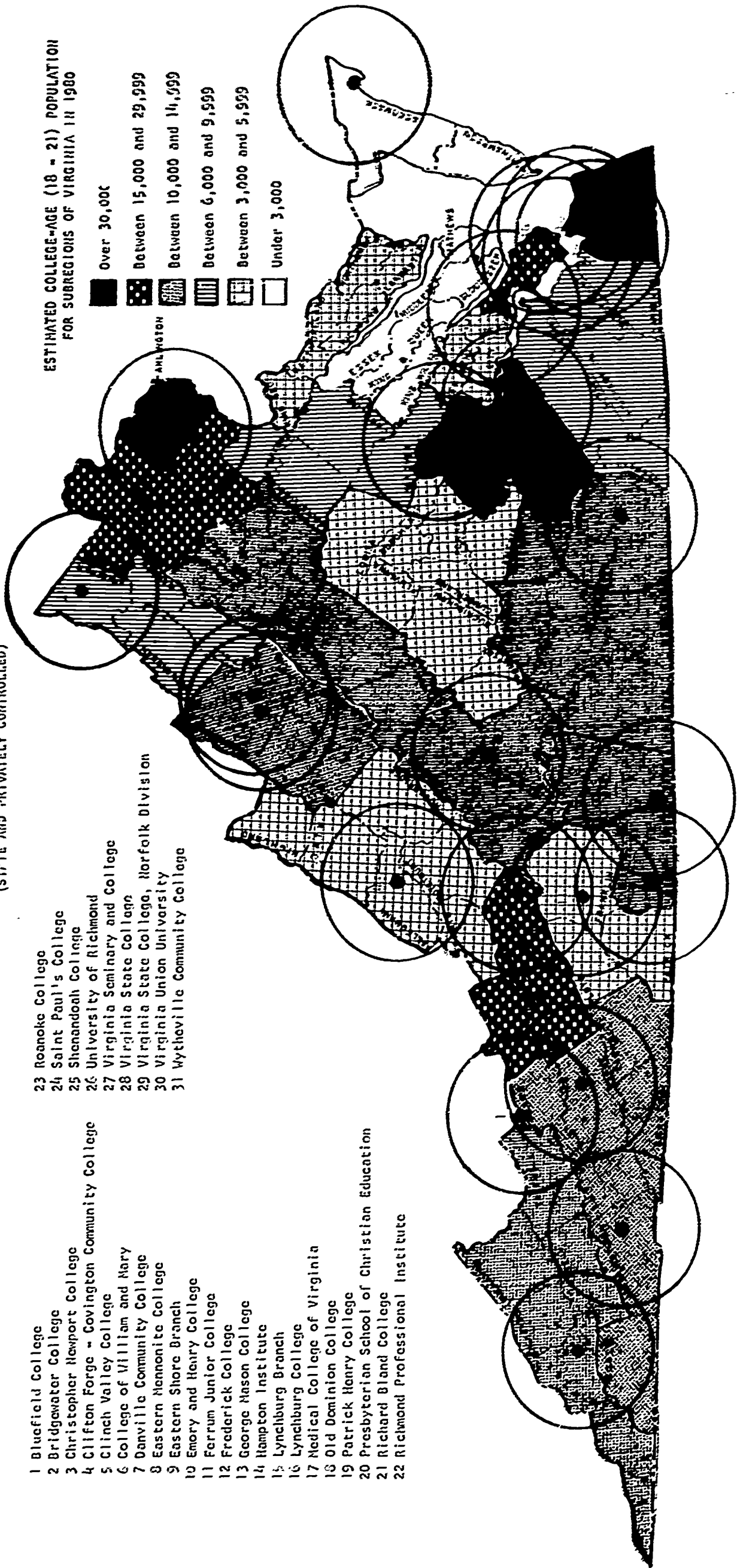
MAP 18
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION WHICH ARE COEDUCATIONAL
(STATE AND PRIVATELY CONTROLLED)

- 1 Bluefield College
- 2 Bridgewater College
- 3 Christopher Newport College
- 4 Clifton Forge - Covington Community College
- 5 Clinch Valley College
- 6 College of William and Mary
- 7 Danville Community College
- 8 Eastern Mennonite College
- 9 Eastern Shore Branch
- 10 Emory and Henry College
- 11 Ferrum Junior College
- 12 Frederick College
- 13 George Mason College
- 14 Hampton Institute
- 15 Lynchburg Branch
- 16 Lynchburg College
- 17 Medical College of Virginia
- 18 Old Dominion College
- 19 Patrick Henry College
- 20 Presbyterian School of Christian Education
- 21 Richard Bland College
- 22 Richmond Professional Institute

- 23 Roanoke College
- 24 Saint Paul's College
- 25 Shenandoah College
- 26 University of Richmond
- 27 Virginia Seminary and College
- 28 Virginia State College
- 29 Virginia State College, Norfolk Division
- 30 Virginia Union University
- 31 Wytheville Community College

ESTIMATED COLLEGE-AGE (18 - 21) POPULATION
FOR SUBREGIONS OF VIRGINIA IN 1980

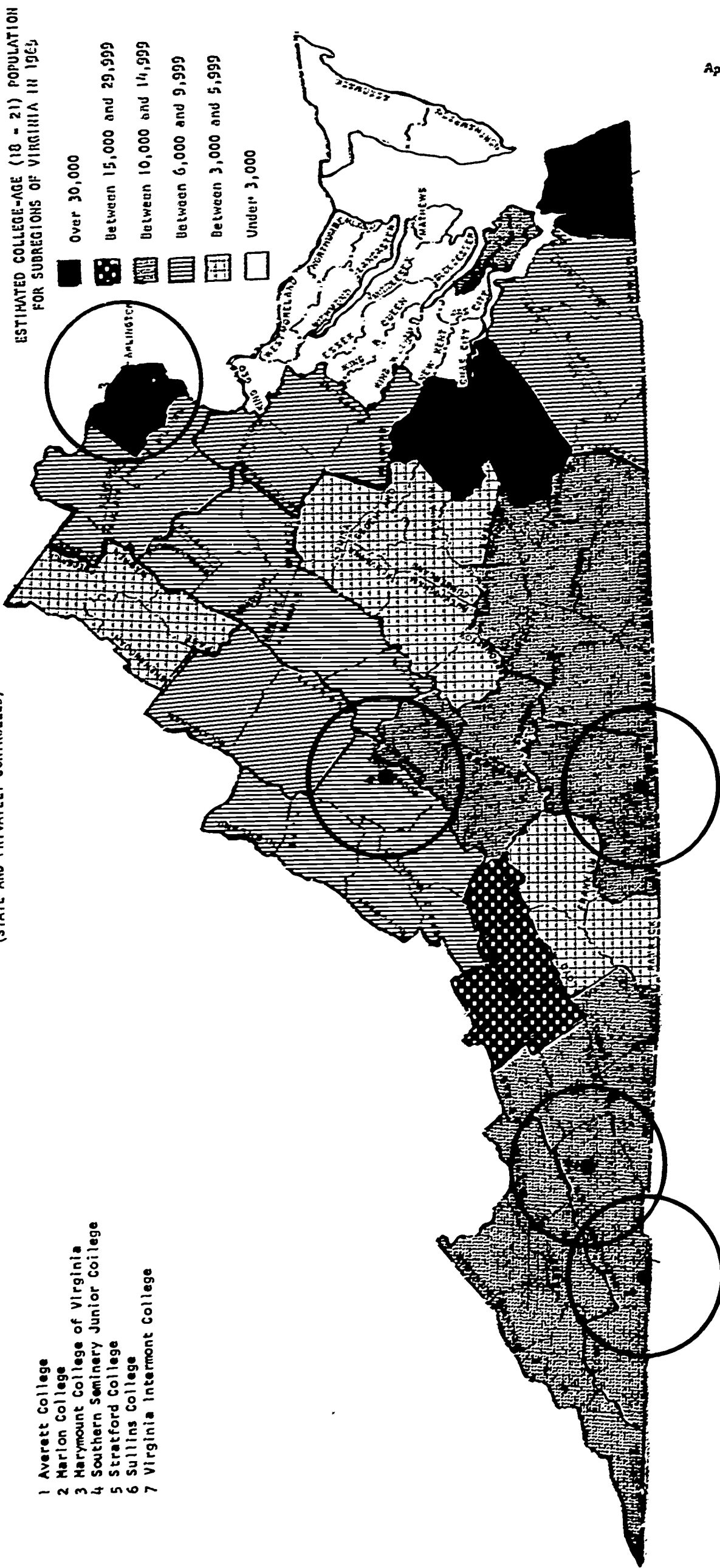
- Over 30,000
- Between 15,000 and 29,999
- Between 10,000 and 14,999
- Between 6,000 and 9,999
- Between 3,000 and 5,999
- Under 3,000



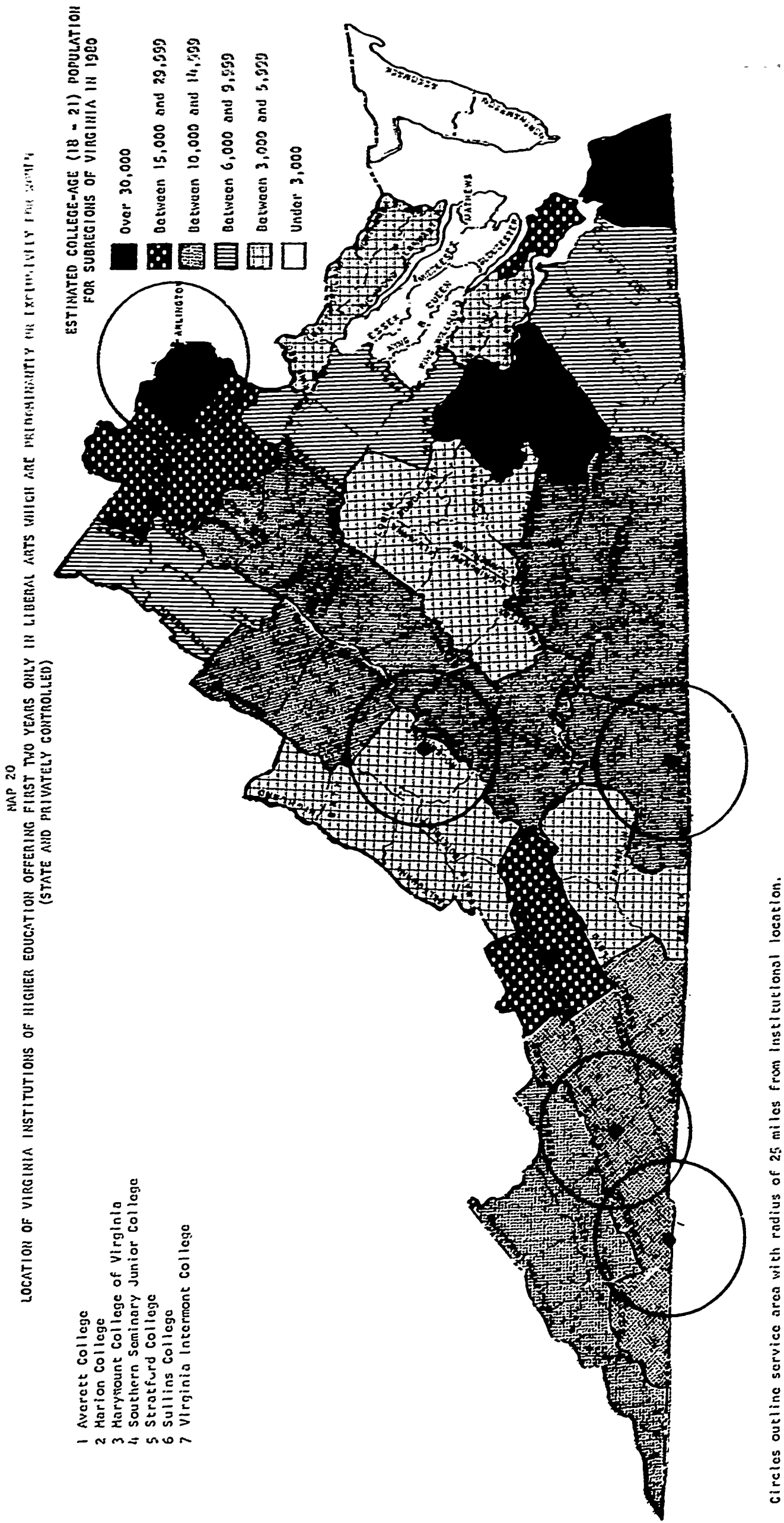
Circles outline service area with radius of 25 miles from institutional location.

MAP 19
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING FIRST TWO YEARS ONLY IN LIBERAL ARTS WHICH ARE PREDOMINANTLY OR EXCLUSIVELY FOR WOMEN
(STATE AND PRIVATELY CONTROLLED)

- 1 Averett College
- 2 Marion College
- 3 Marymount College of Virginia
- 4 Southern Seminary Junior College
- 5 Stratford College
- 6 Sullins College
- 7 Virginia Interment College



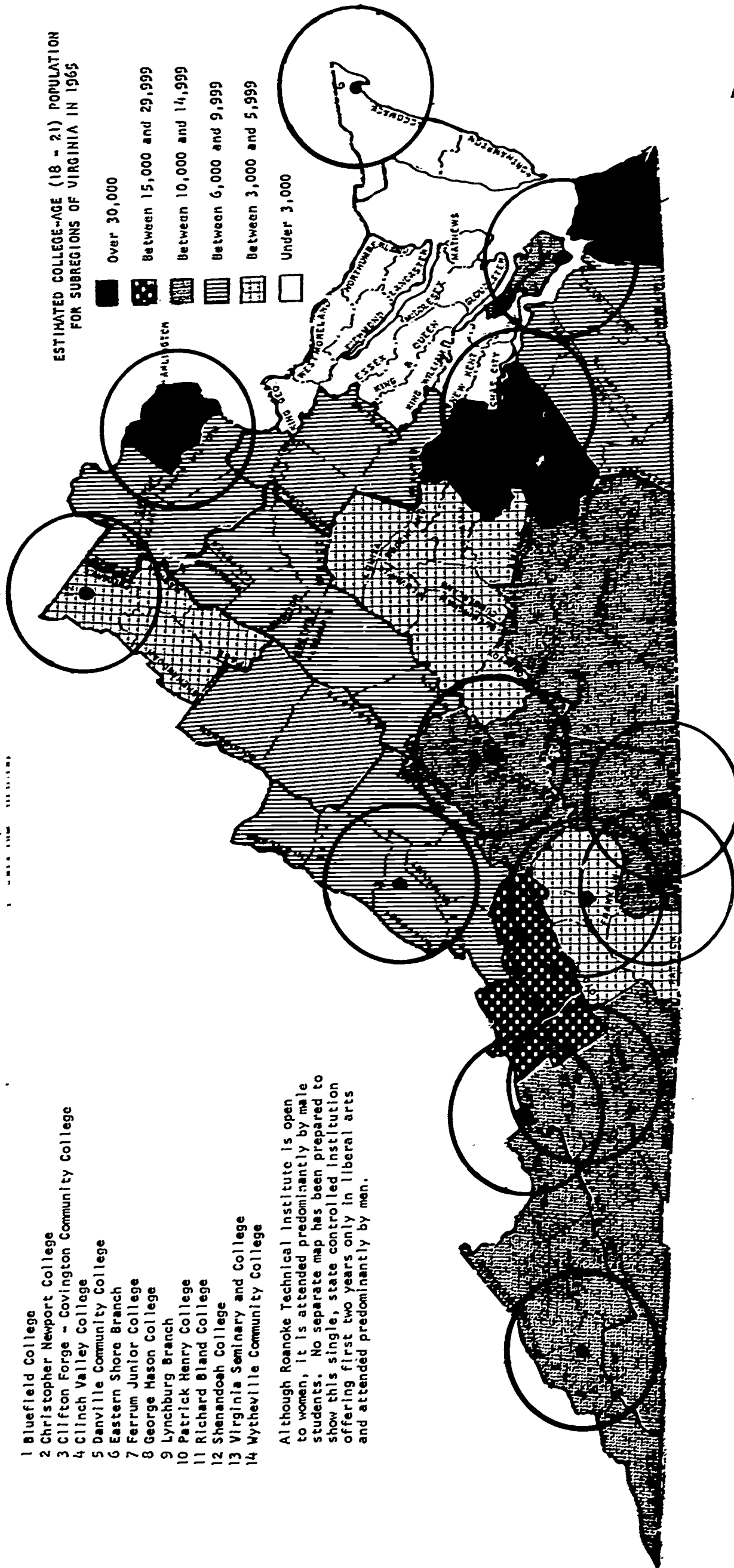
Circles outline service area with radius of 25 miles from institutional location.



MAP 21
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING FIRST TWO YEARS ONLY IN LIBERAL ARTS WHICH ARE COEDUCATIONAL
(STATE AND PRIVATELY CONTROLLED)

- 1 Bluefield College
- 2 Christopher Newport College
- 3 Clifton Forge - Covington Community College
- 4 Clinch Valley College
- 5 Danville Community College
- 6 Eastern Shore Branch
- 7 Ferrum Junior College
- 8 George Mason College
- 9 Lynchburg Branch
- 10 Patrick Henry College
- 11 Richard Bland College
- 12 Shenandoah College
- 13 Virginia Seminary and College
- 14 Wytheville Community College

Although Roanoke Technical Institute is open to women, it is attended predominantly by male students. No separate map has been prepared to show this single, state controlled institution offering first two years only in liberal arts and attended predominantly by men.



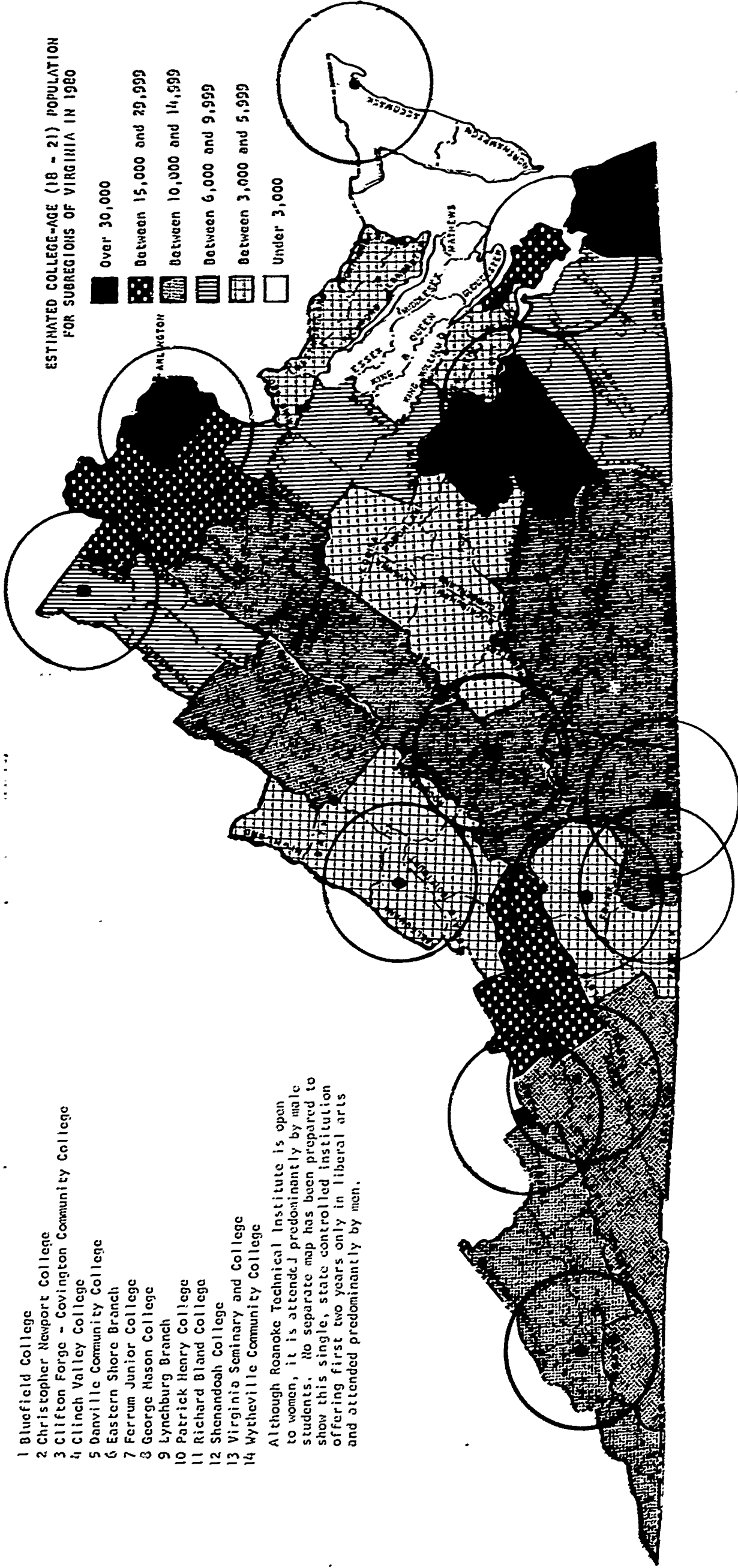
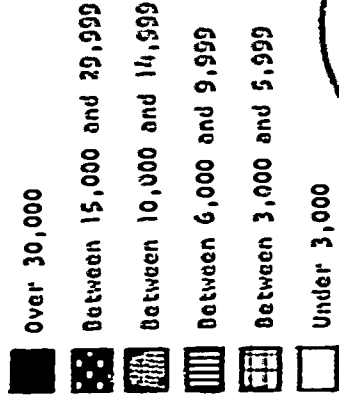
MAP 22

LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING FIRST TWO YEARS ONLY IN LIBERAL ARTS WHICH ARE CHEDUCATIONAL (STATE AND PRIVATELY CONTROLLED)

- 1 Bluefield College
- 2 Christopher Newport College
- 3 Clifton Forge - Covington Community College
- 4 Clinch Valley College
- 5 Danville Community College
- 6 Eastern Shore Branch
- 7 Ferrum Junior College
- 8 George Mason College
- 9 Lynchburg Branch
- 10 Patrick Henry College
- 11 Richard Bland College
- 12 Shenandoah College
- 13 Virginia Seminary and College
- 14 Wytheville Community College

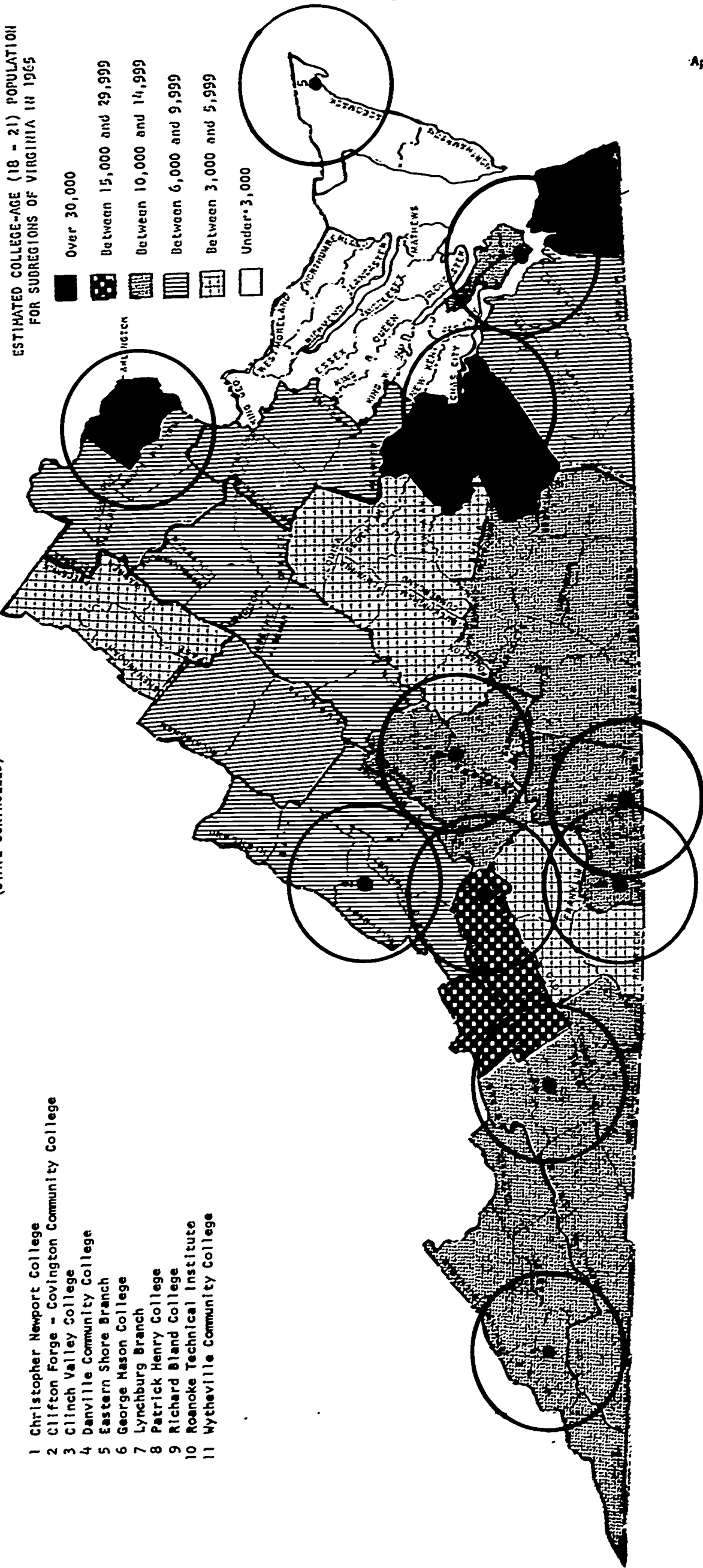
Although Roanoke Technical Institute is open to women, it is attended predominantly by male students. No separate map has been prepared to show this single, state controlled institution offering first two years only in liberal arts and attended predominantly by men.

ESTIMATED COLLEGE-AGE (18 - 21) POPULATION FOR SUBREGIONS OF VIRGINIA IN 1980



Circles outline service area with radius of 25 miles from institutional location.

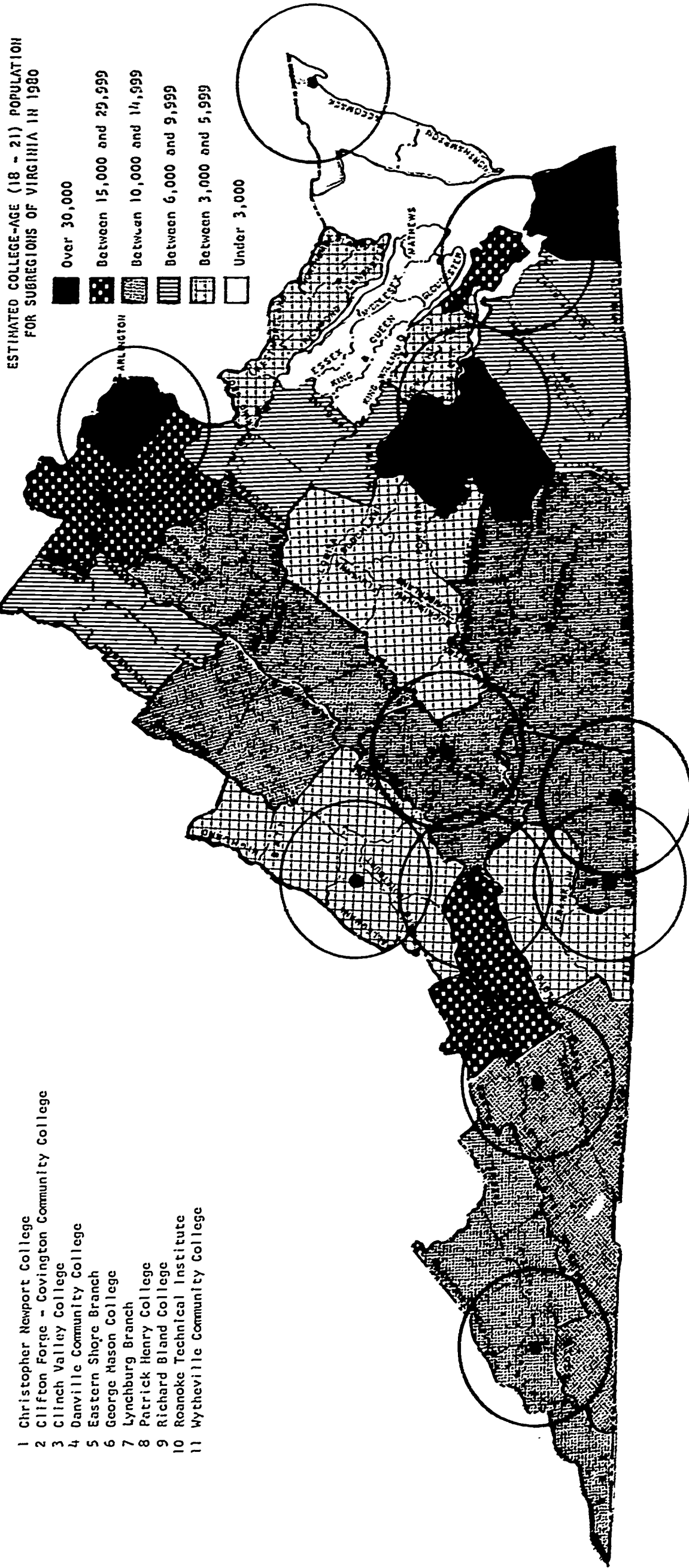
MAP 23
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING FIRST TWO YEARS ONLY IN LIBERAL ARTS
(STATE CONTROLLED)



Circles outline service area with radius of 25 miles from institutional location.

MAP 24
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING FIRST TWO YEARS ONLY IN LIBERAL ARTS
(STATE CONTROLLED)

- 1 Christopher Newport College
- 2 Clifton Forge - Covington Community College
- 3 Clinch Valley College
- 4 Danville Community College
- 5 Eastern Shore Branch
- 6 George Mason College
- 7 Lynchburg Branch
- 8 Patrick Henry College
- 9 Richard Bland College
- 10 Roanoke Technical Institute
- 11 Wytheville Community College



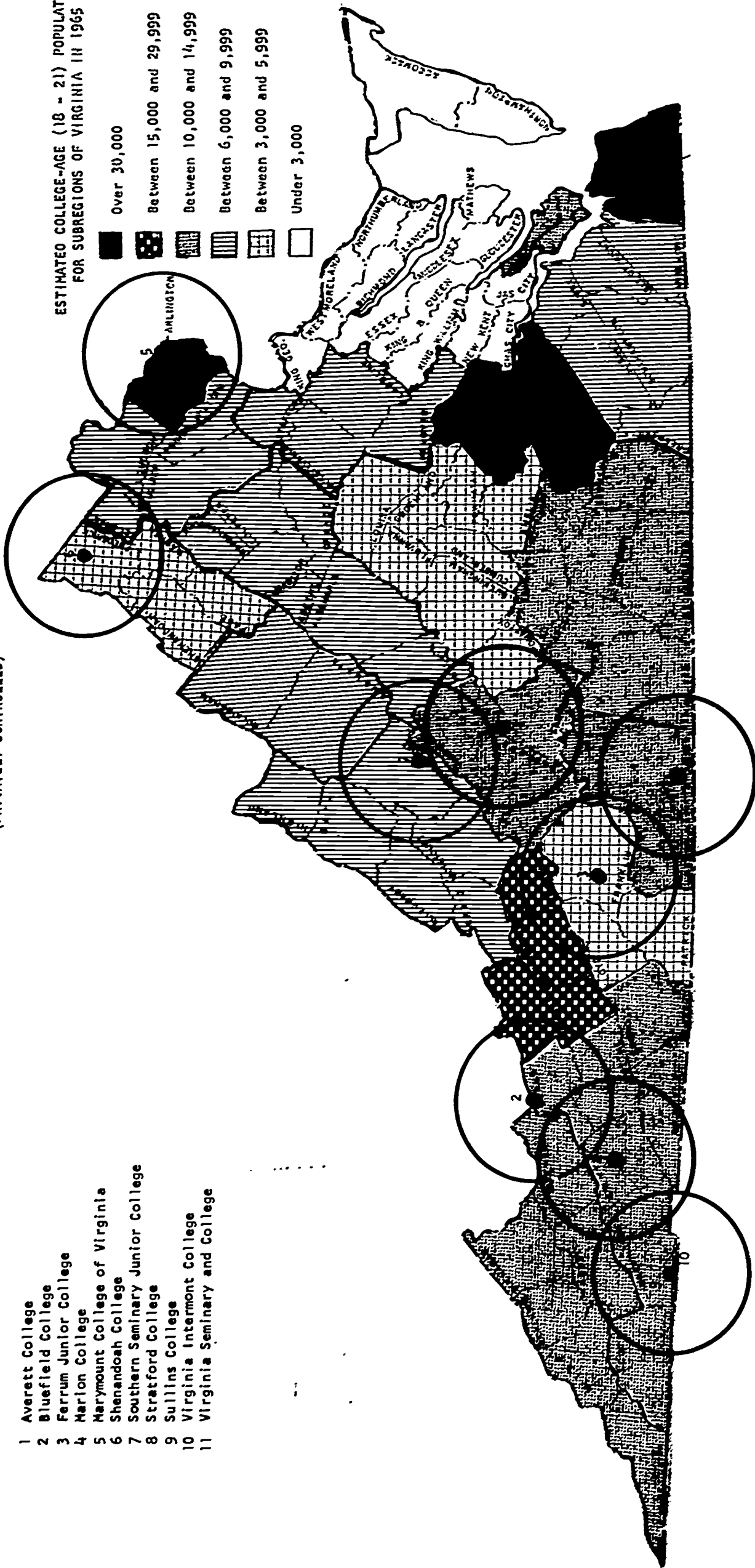
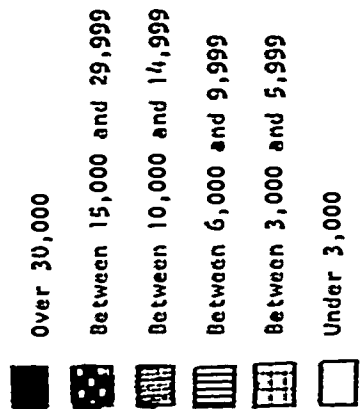
Circles outline service area with radius of 25 miles from institutional location.

MAP 25

LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING FIRST TWO YEARS ONLY IN LIBERAL ARTS
(PRIVATELY CONTROLLED)

- 1 Averett College
- 2 Bluefield College
- 3 Ferrum Junior College
- 4 Marlon College
- 5 Marymount College of Virginia
- 6 Shenandoah College
- 7 Southern Seminary Junior College
- 8 Stratford College
- 9 Sullins College
- 10 Virginia Intermont College
- 11 Virginia Seminary and College

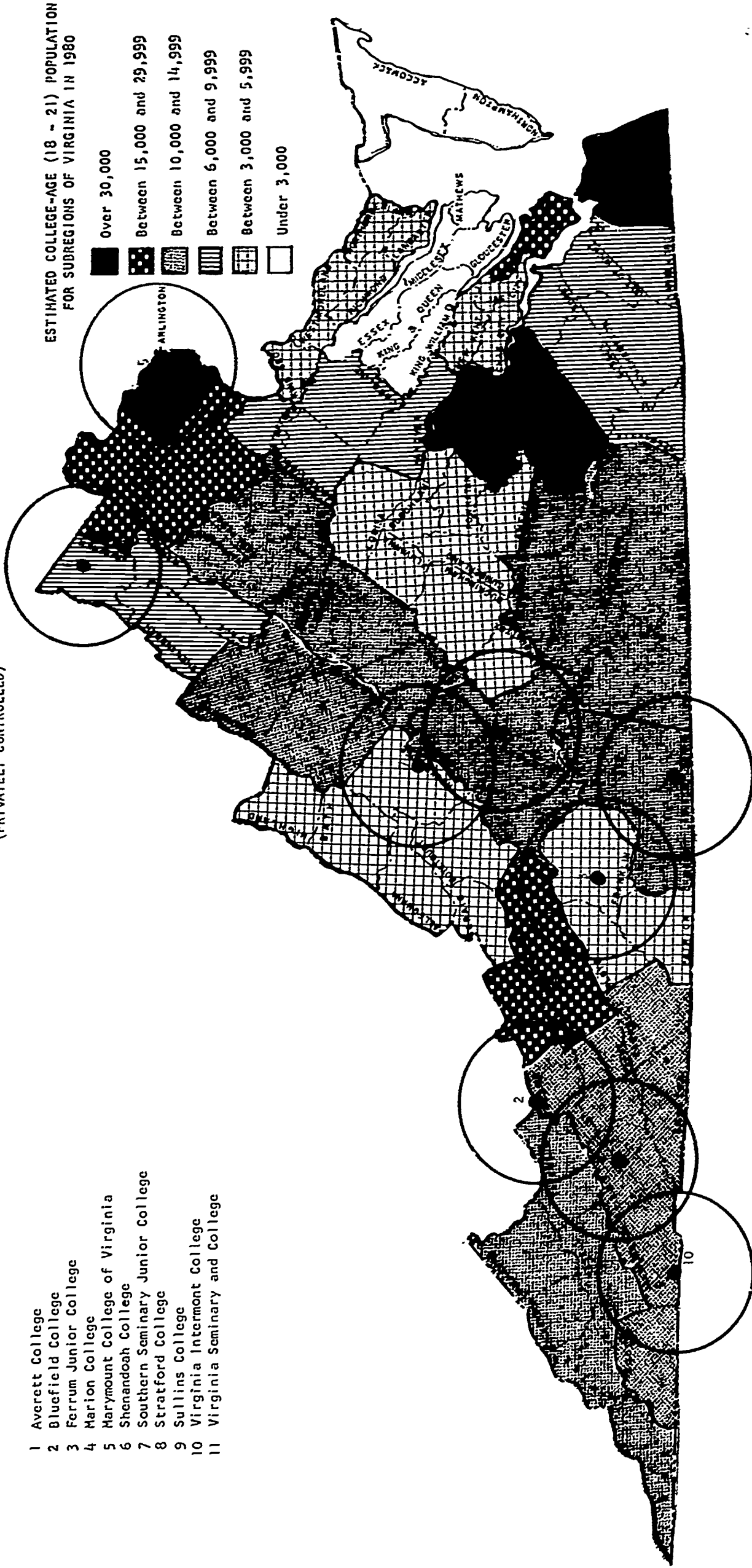
ESTIMATED COLLEGE-AGE (18 - 21) POPULATION
FOR SUBREGIONS OF VIRGINIA IN 1965



Circles outline service area with radius of 25 miles from institutional location.

MAP 26
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING FIRST TWO YEARS ONLY IN LIBERAL ARTS
(PRIVATELY CONTROLLED)

- 1 Averett College
- 2 Bluefield College
- 3 Ferrum Junior College
- 4 Marion College
- 5 Marymount College of Virginia
- 6 Shenandoah College
- 7 Southern Seminary Junior College
- 8 Stratford College
- 9 Sullins College
- 10 Virginia Intermont College
- 11 Virginia Seminary and College

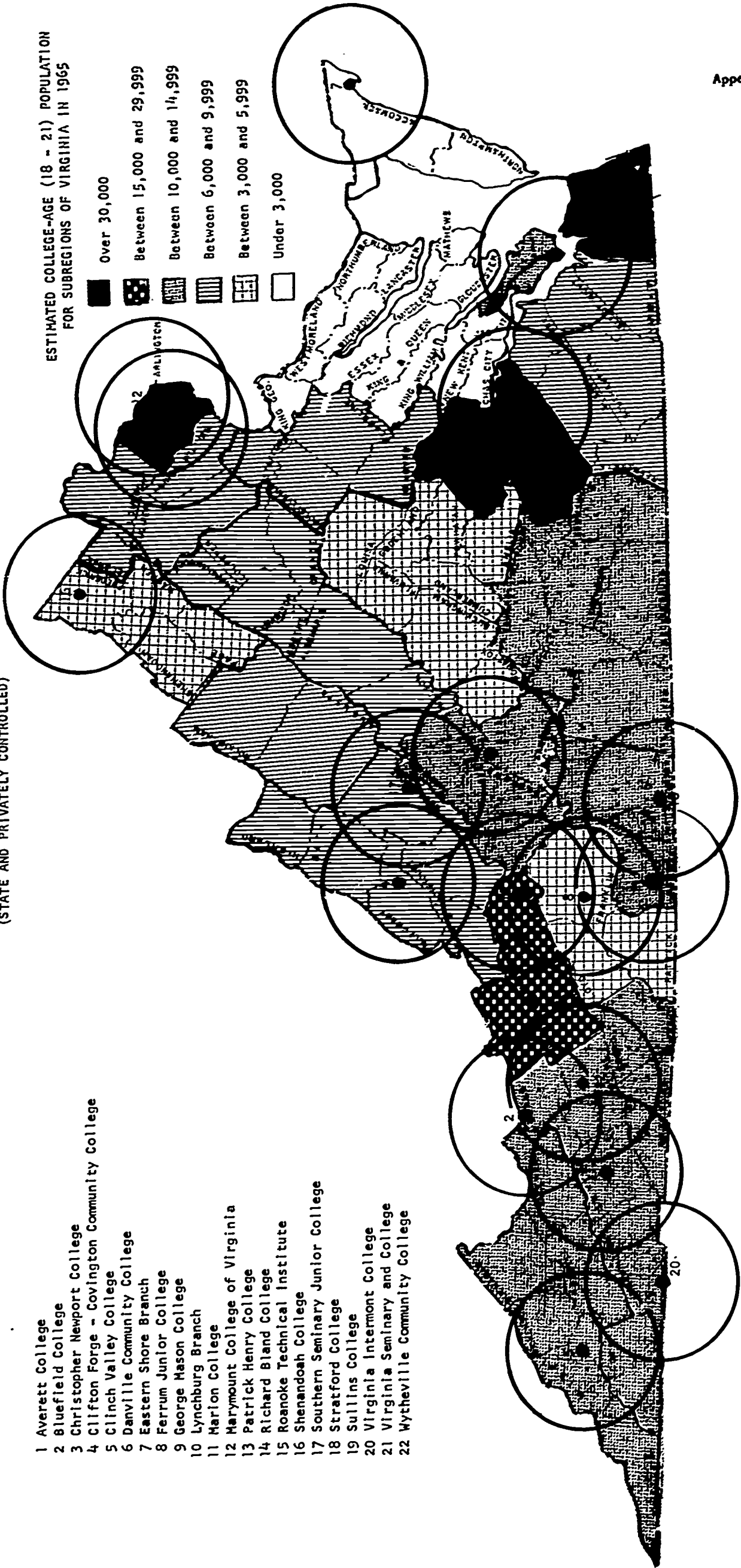
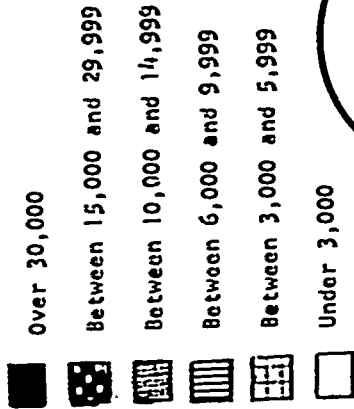


Circles outline service area with radius of 25 miles from institutional location.

MAP 27
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING FIRST TWO YEARS ONLY IN LIBERAL ARTS
(STATE AND PRIVATELY CONTROLLED)

- 1 Averett College
- 2 Bluefield College
- 3 Christopher Newport College
- 4 Clifton Forge - Covington Community College
- 5 Clinch Valley College
- 6 Danville Community College
- 7 Eastern Shore Branch
- 8 Ferrum Junior College
- 9 George Mason College
- 10 Lynchburg Branch
- 11 Marion College
- 12 Marymount College of Virginia
- 13 Patrick Henry College
- 14 Richard Bland College
- 15 Roanoke Technical Institute
- 16 Shenandoah College
- 17 Southern Seminary Junior College
- 18 Stratford College
- 19 Sullins College
- 20 Virginia Intermont College
- 21 Virginia Seminary and College
- 22 Wytheville Community College

ESTIMATED COLLEGE-AGE (18 - 21) POPULATION
FOR SUBREGIONS OF VIRGINIA IN 1965

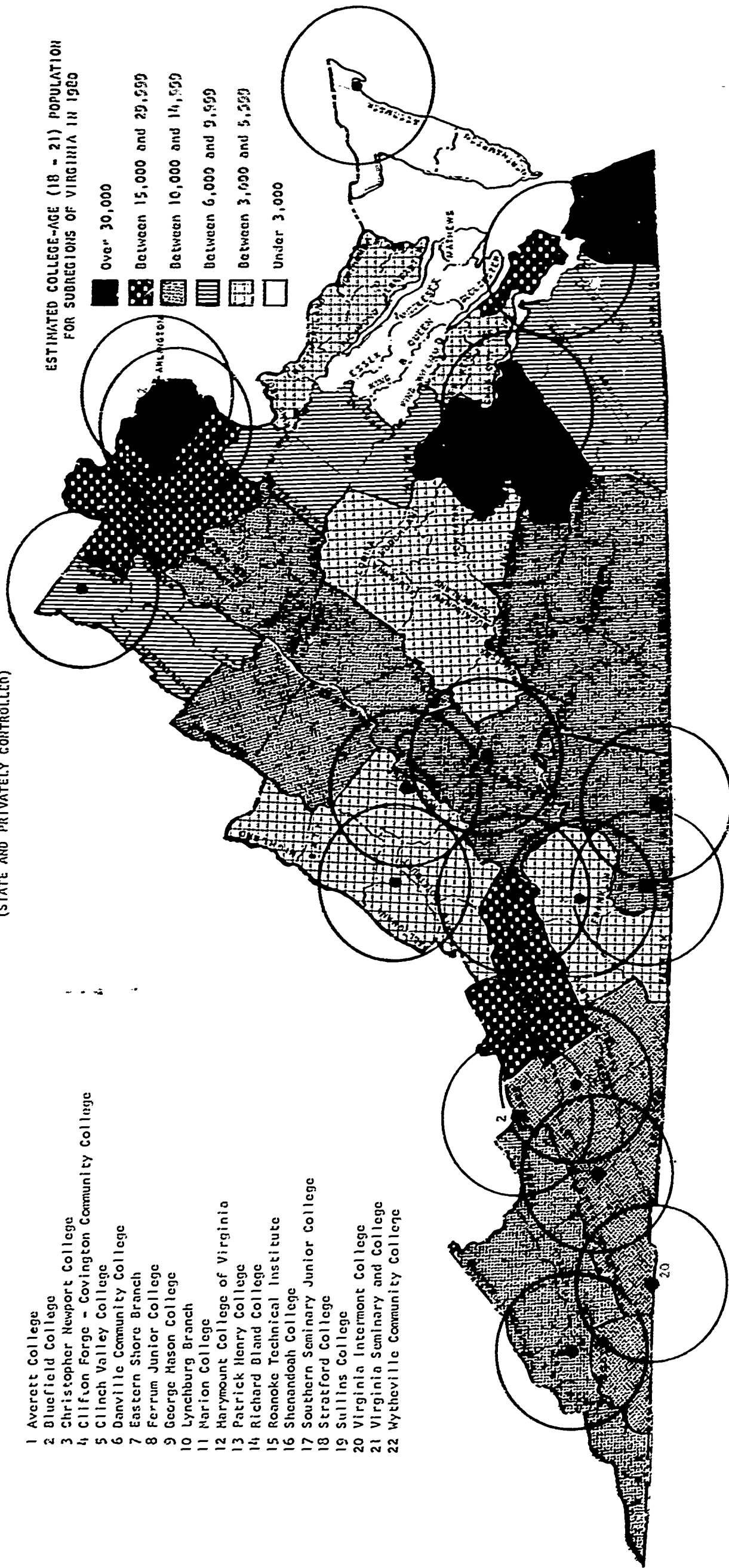
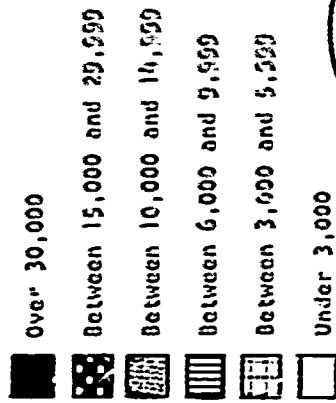


Circles outline service area with radius of 25 miles from institutional location.

MAP 28
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING FIRST TWO YEARS ONLY IN LIBERAL ARTS
(STATE AND PRIVATELY CONTROLLED)

- 1 Averett College
- 2 Bluefield College
- 3 Christopher Newport College
- 4 Clifton Forge - Covington Community College
- 5 Clinch Valley College
- 6 Danville Community College
- 7 Eastern Shore Branch
- 8 Ferrum Junior College
- 9 George Mason College
- 10 Lynchburg Branch
- 11 Marion College
- 12 Marymount College of Virginia
- 13 Patrick Henry College
- 14 Richard Bland College
- 15 Roanoke Technical Institute
- 16 Shenandoah College
- 17 Southern Seminary Junior College
- 18 Stratford College
- 19 Sullins College
- 20 Virginia Interment College
- 21 Virginia Seminary and College
- 22 Wytheville Community College

ESTIMATED COLLEGE-AGE (18 - 21) POPULATION
FOR SUBREGIONS OF VIRGINIA IN 1980

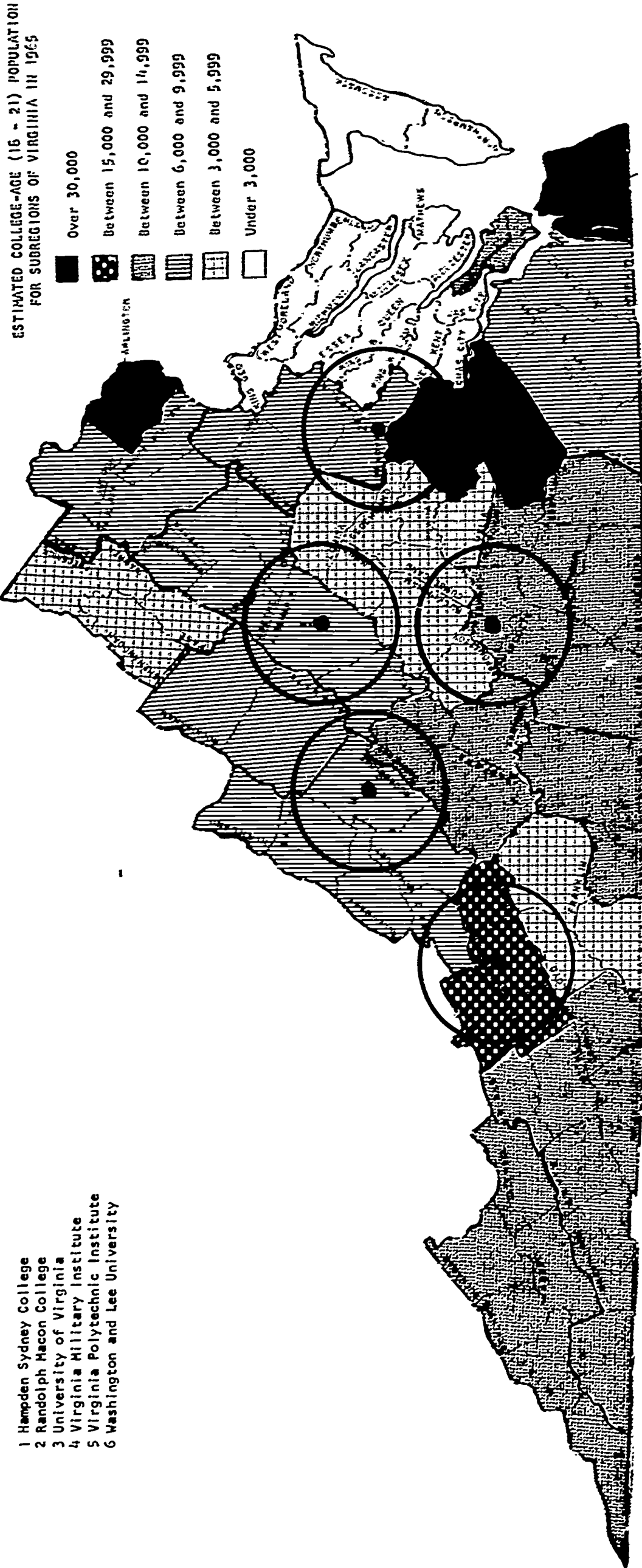


Circles outline service area with radius of 25 miles from institutional location.

MAP 29

LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING FOUR YEAR DEGREES IN LIBERAL ARTS WHICH ARE PREDOMINANTLY OR EXCLUSIVELY FOR MEN
(STATE AND PRIVATELY CONTROLLED)

- 1 Hampden Sydney College
- 2 Randolph Macon College
- 3 University of Virginia
- 4 Virginia Military Institute
- 5 Virginia Polytechnic Institute
- 6 Washington and Lee University



Circles outline service area with radius of 25 miles from institutional location.

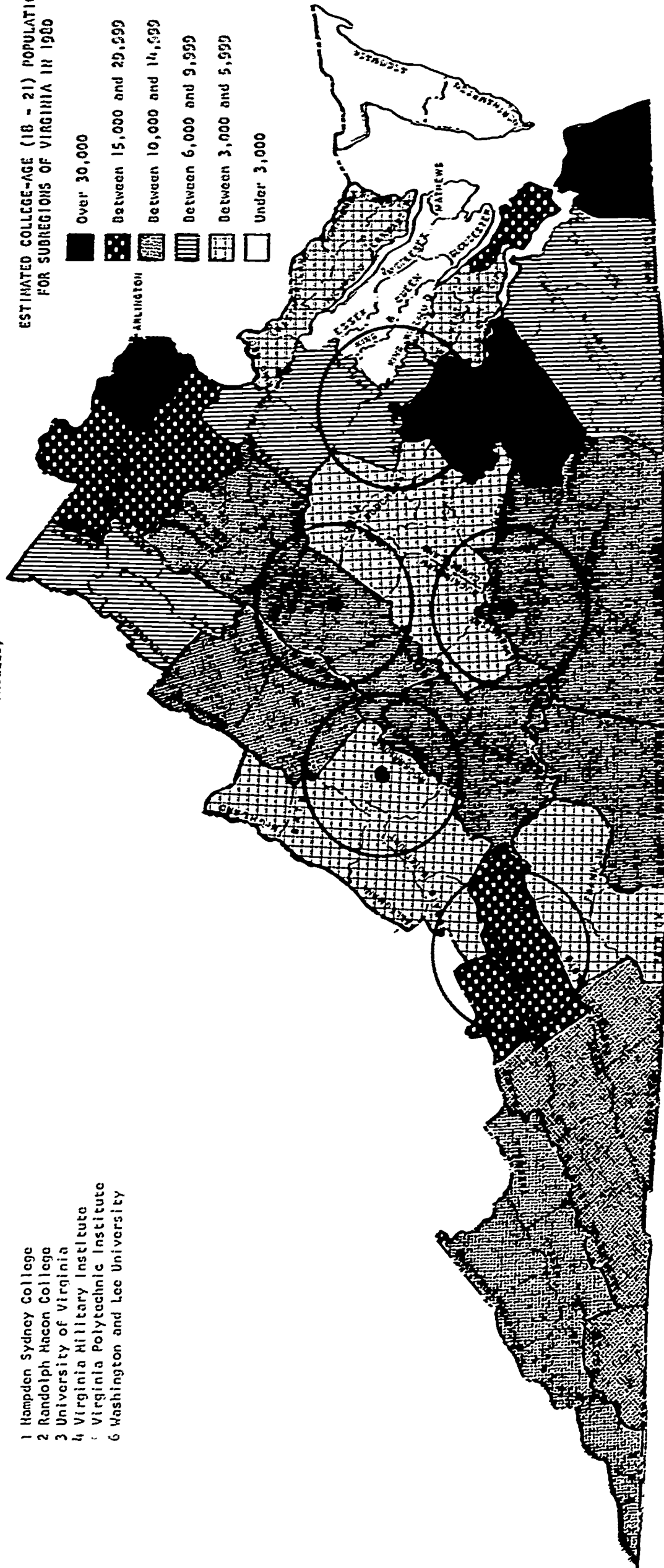
MAP 30

LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING FOUR YEAR DEGREES IN LIBERAL ARTS WHICH ARE PREDOMINANTLY OR EXCLUSIVELY FOR MEN,
(STATE AND PRIVATELY CONTROLLED)

- 1 Hampden Sydney College
- 2 Randolph Macon College
- 3 University of Virginia
- 4 Virginia Military Institute
- 5 Virginia Polytechnic Institute
- 6 Washington and Lee University

ESTIMATED COLLEGE-AGE (18 - 21) POPULATION
FOR SUBREGIONS OF VIRGINIA IN 1980

| |
|---------------------------|
| Over 30,000 |
| Between 15,000 and 29,999 |
| Between 10,000 and 14,999 |
| Between 6,000 and 9,999 |
| Between 3,000 and 5,999 |
| Under 3,000 |

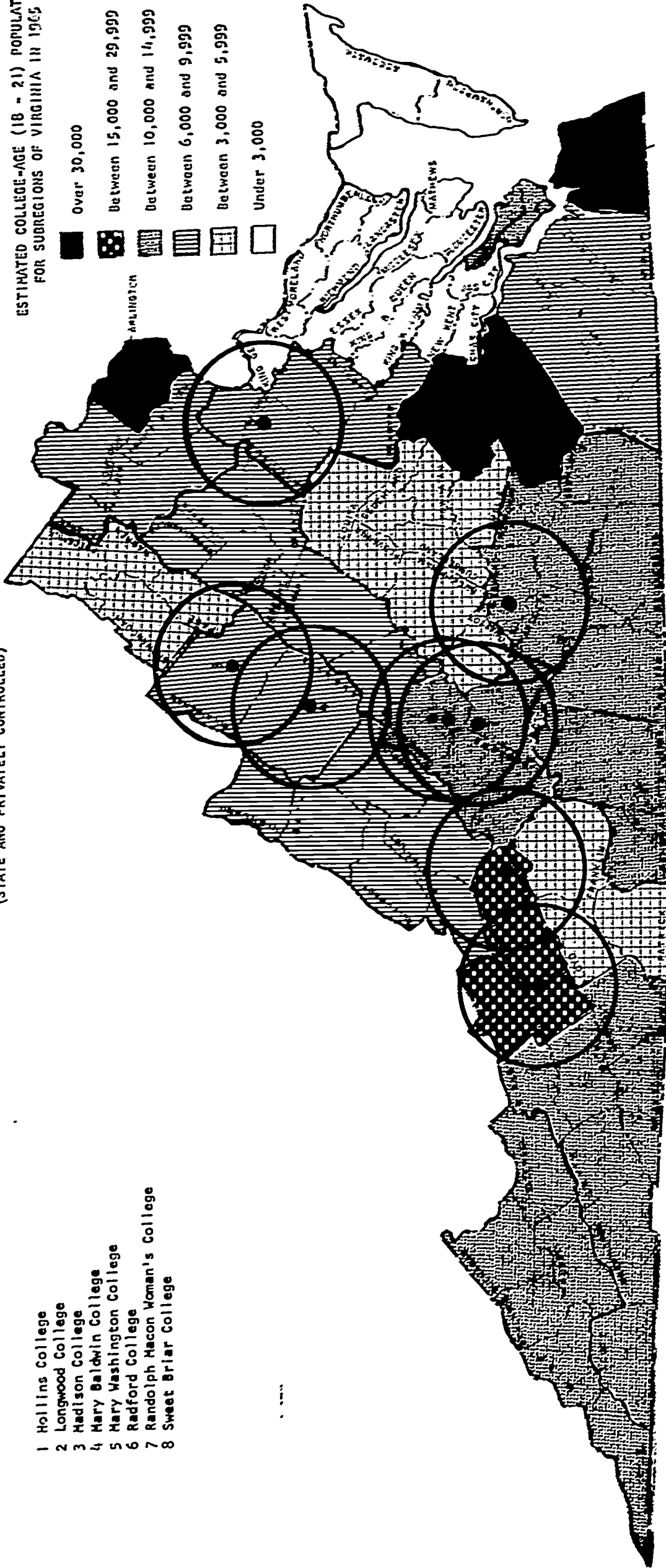
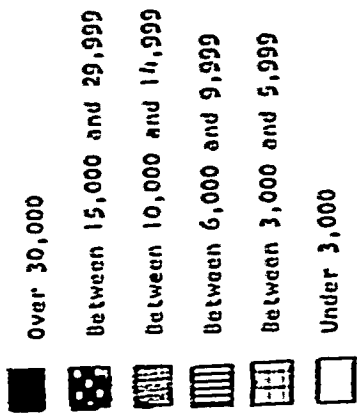
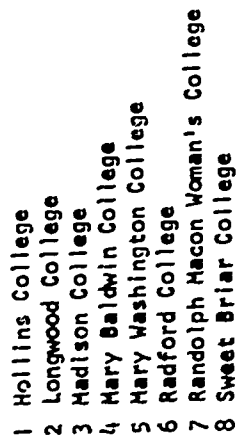


Circles outline service area with radius of 25 miles from institutional location.

HAP 31

LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING FOUR YEAR DEGREES IN LIBERAL ARTS WHICH ARE PREDOMINANTLY OR EXCLUSIVELY FOR WOMEN
(STATE AND PRIVATELY CONTROLLED)

ESTIMATED COLLEGE-AGE (18 - 21) POPULATION
FOR SUBREGIONS OF VIRGINIA IN 1965

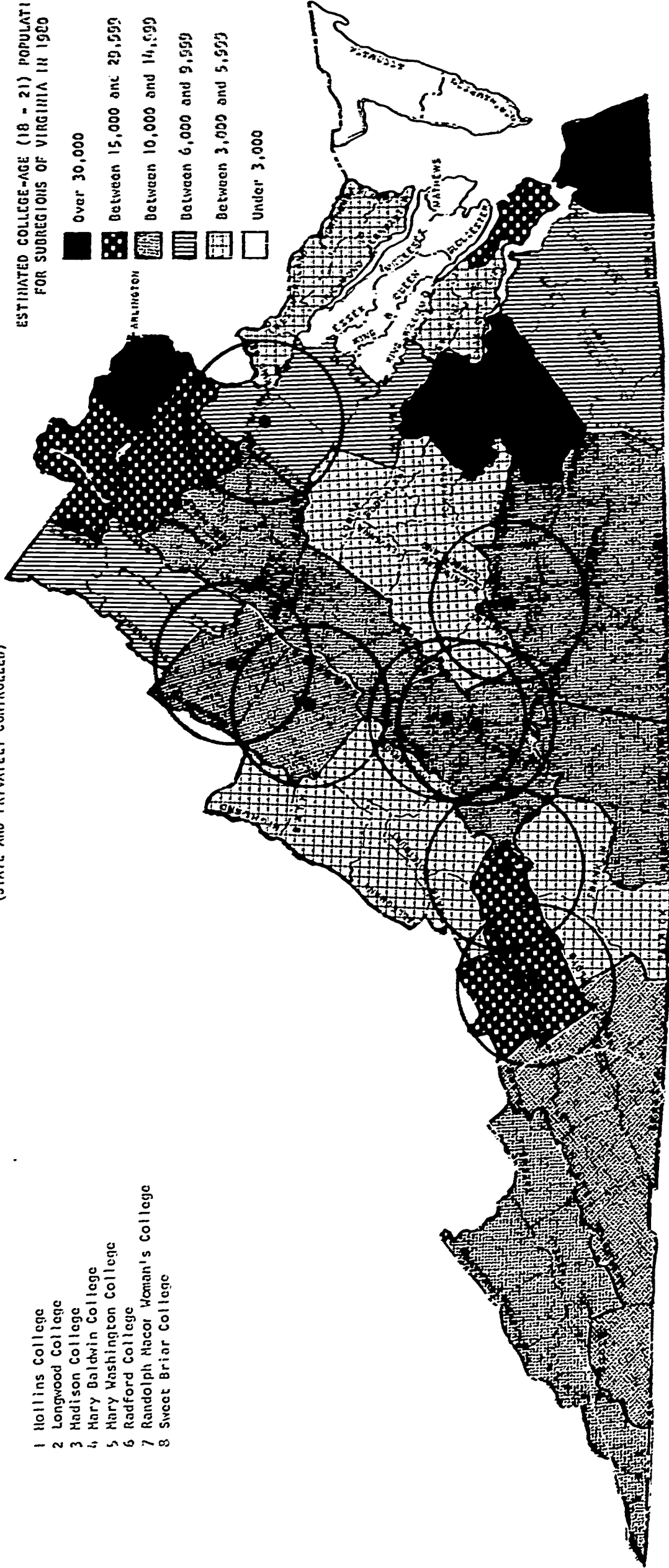
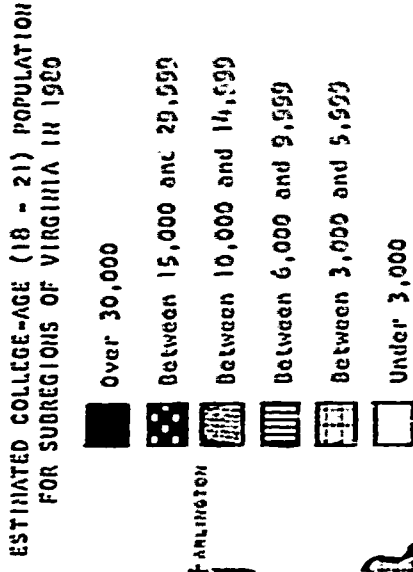


Circles outline service area with radius of 25 miles from institutional location.

MAP 32

LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING FOUR YEAR DEGREES IN LIBERAL ARTS WHICH ARE PREDOMINANTLY OR EXCLUSIVELY FOR WOMEN
(STATE AND PRIVATELY CONTROLLED)

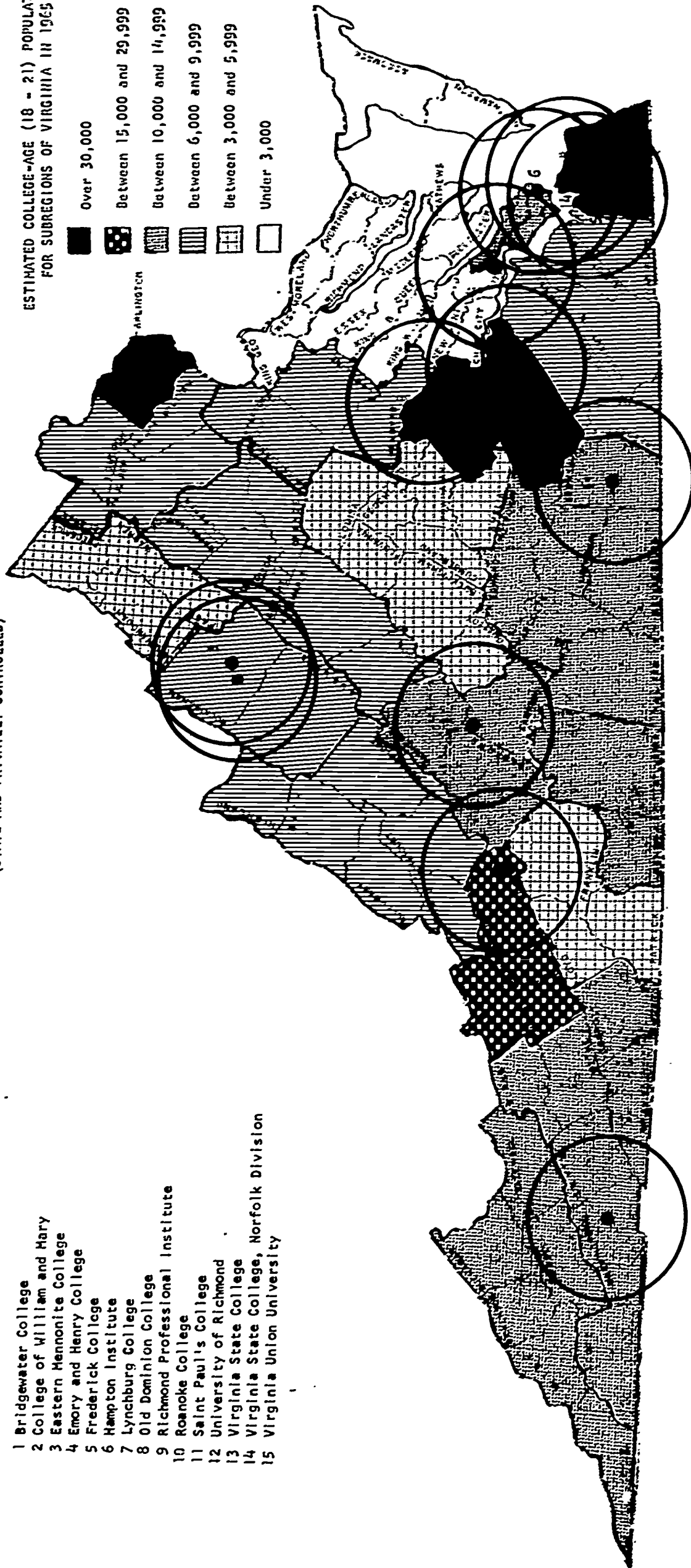
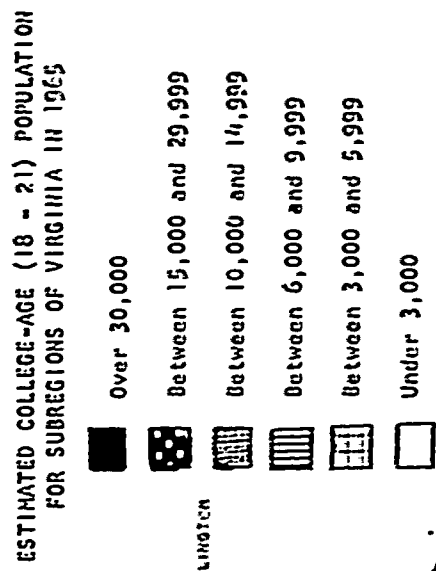
- 1 Hollins College
- 2 Longwood College
- 3 Madison College
- 4 Mary Baldwin College
- 5 Mary Washington College
- 6 Radford College
- 7 Randolph Macor Woman's College
- 8 Sweet Briar College



Circles outline service area with radius of 25 miles from institutional location.

MAP 33
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING FOUR YEAR DEGREES IN LIBERAL ARTS WHICH ARE COEDUCATIONAL
(STATE AND PRIVATELY CONTROLLED)

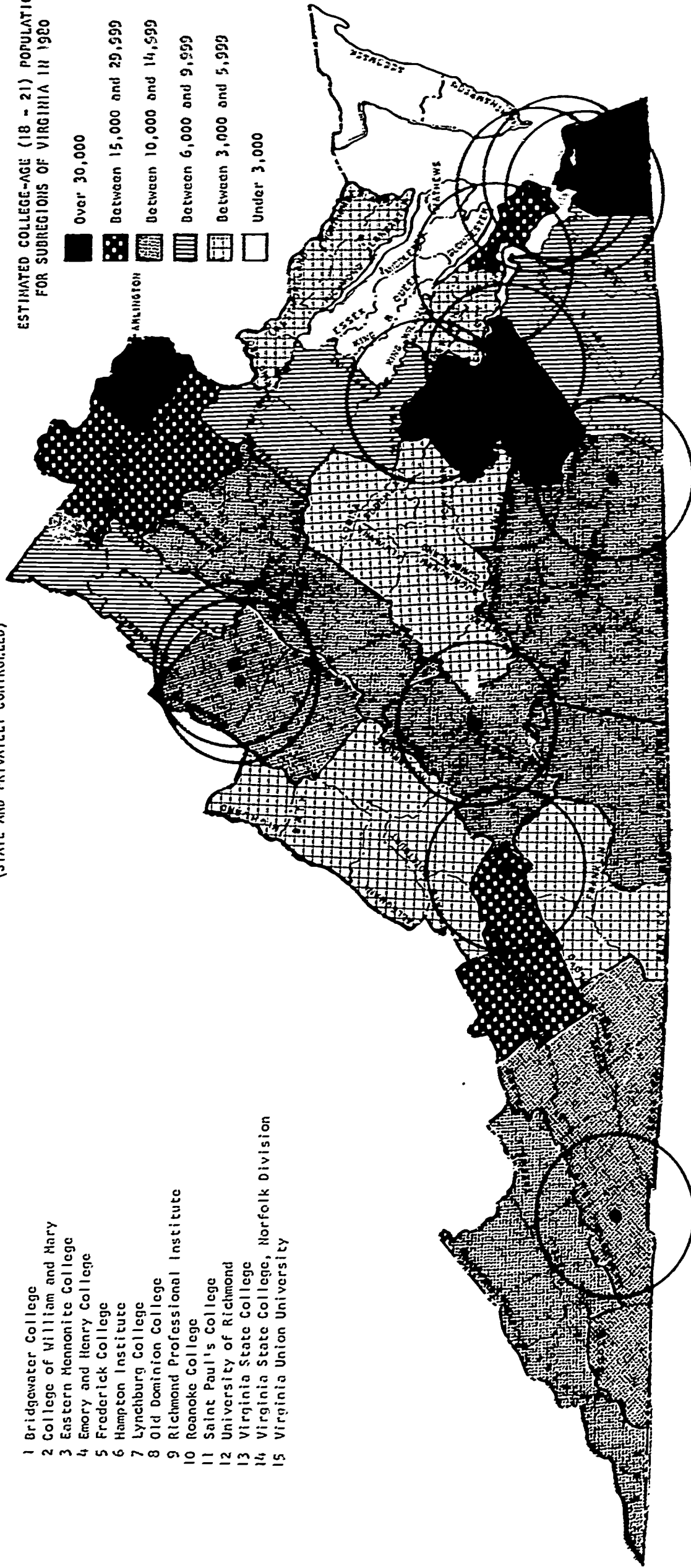
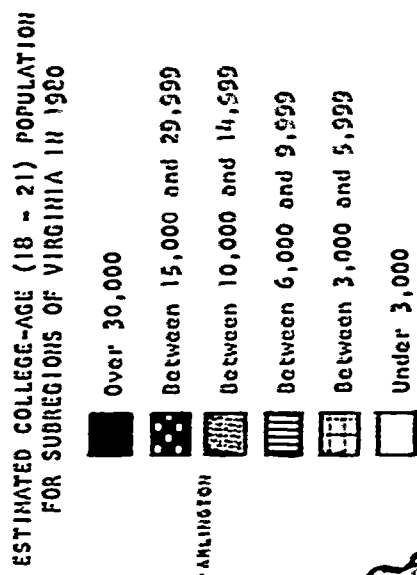
- 1 Bridgewater College
- 2 College of William and Mary
- 3 Eastern Mennonite College
- 4 Emory and Henry College
- 5 Frederick College
- 6 Hampton Institute
- 7 Lynchburg College
- 8 Old Dominion College
- 9 Richmond Professional Institute
- 10 Roanoke College
- 11 Saint Paul's College
- 12 University of Richmond
- 13 Virginia State College
- 14 Virginia State College, Norfolk Division
- 15 Virginia Union University



Circles outline service area with radius of 25 miles from institutional location.

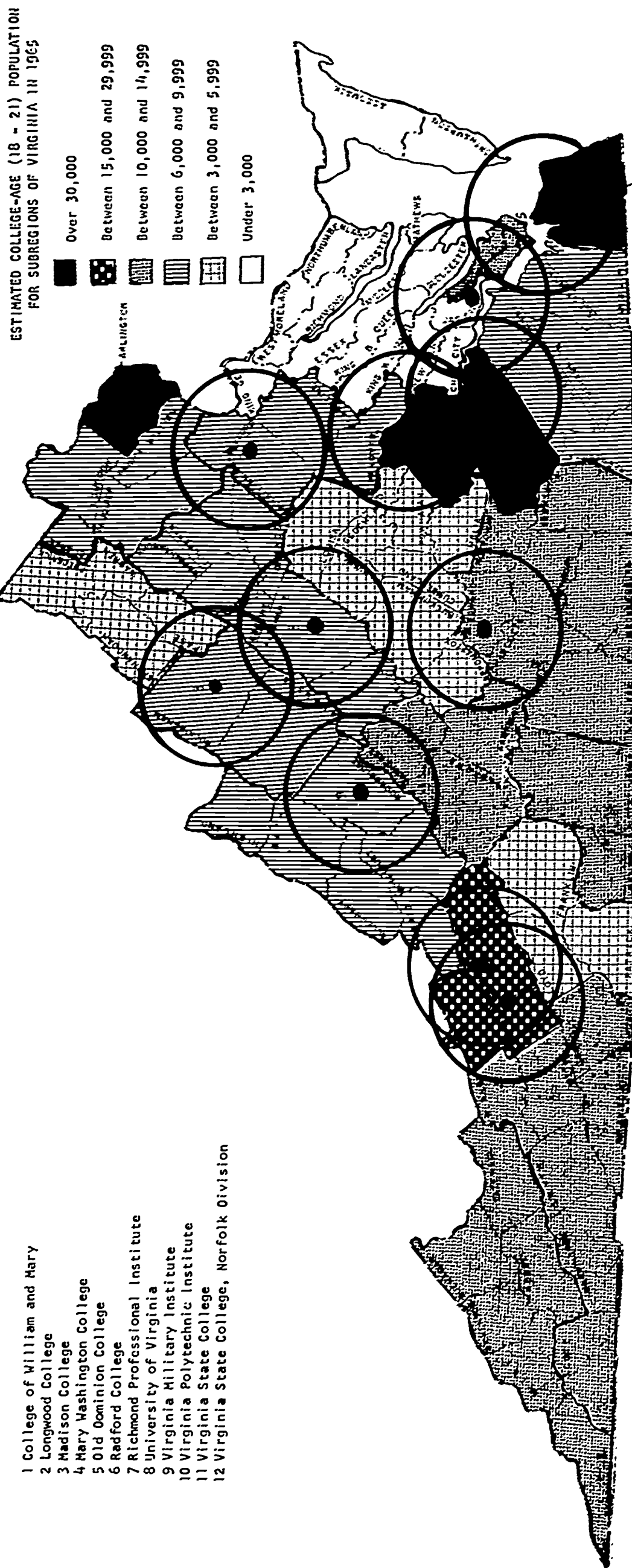
MAP 34
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING FOUR YEAR DEGREES IN LIBERAL ARTS WHICH ARE COEDUCATIONAL
(STATE AND PRIVATELY CONTROLLED)

- 1 Bridgewater College
- 2 College of William and Mary
- 3 Eastern Mennonite College
- 4 Emory and Henry College
- 5 Frederick College
- 6 Hampton Institute
- 7 Lynchburg College
- 8 Old Dominion College
- 9 Richmond Professional Institute
- 10 Roanoke College
- 11 Saint Paul's College
- 12 University of Richmond
- 13 Virginia State College
- 14 Virginia State College, Norfolk Division
- 15 Virginia Union University

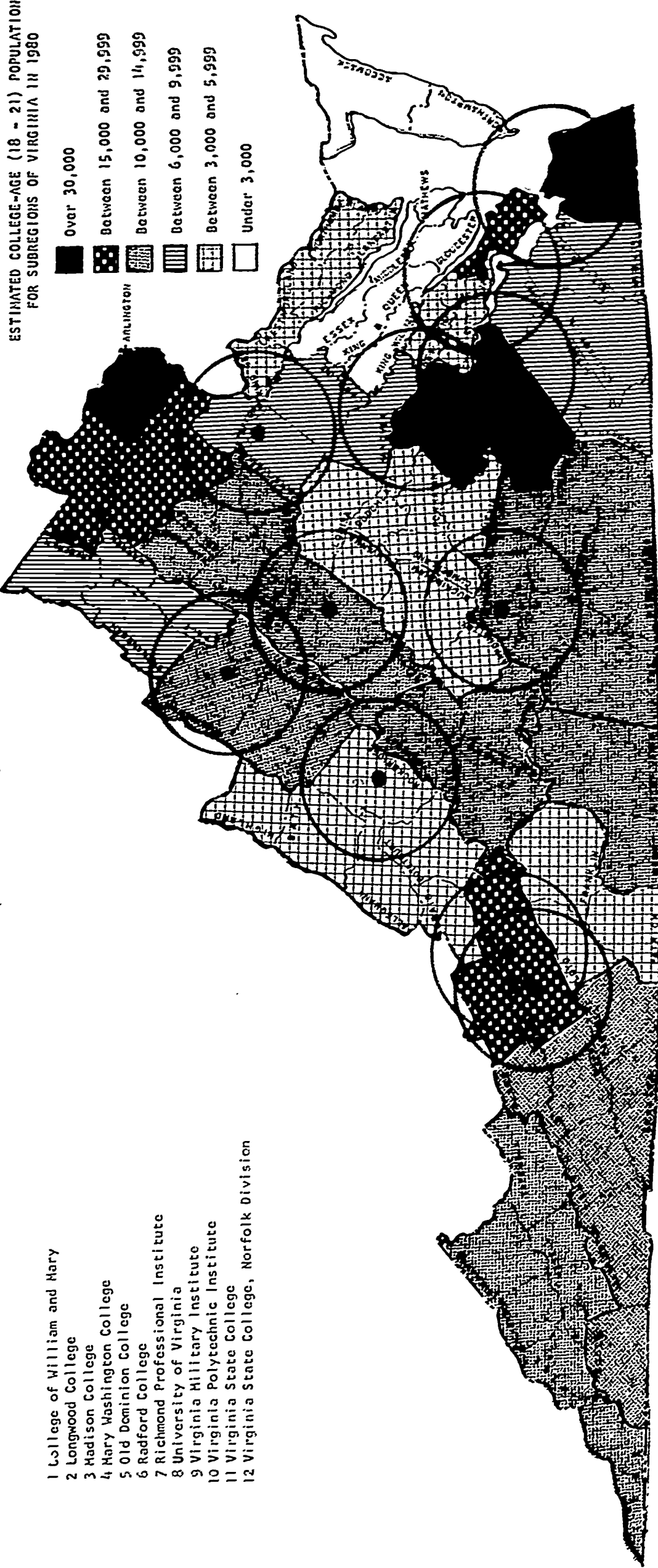


Circles outline service area with radius of 25 miles from institutional location.

MAP 35
LOCATION OF VIRGINIA INSTITUTIONS OFFERING FOUR YEAR DEGREES IN LIBERAL ARTS
(STATE CONTROLLED)



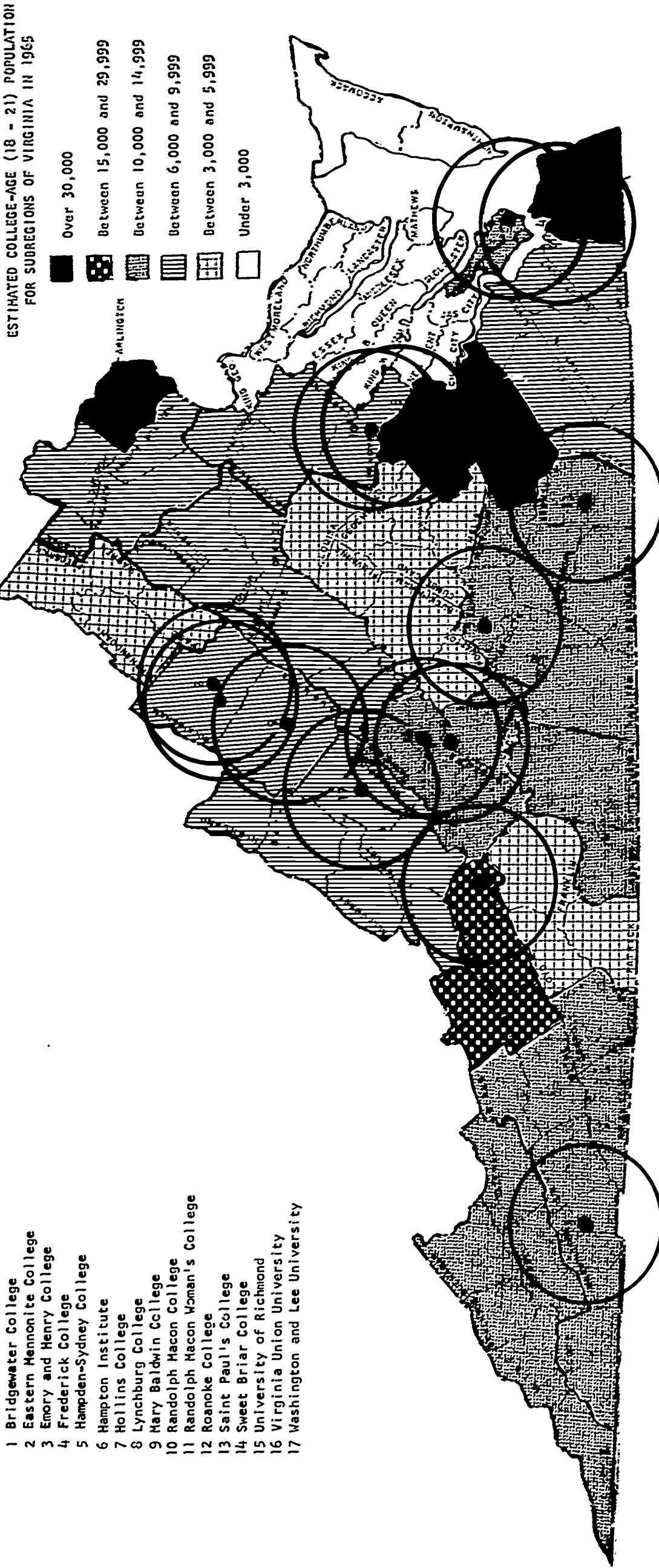
MAP 36
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING FOUR YEAR DEGREES IN LIBERAL ARTS
(STATE CONTROLLED)



Circles outline service area with radius of 25 miles from institutional location.

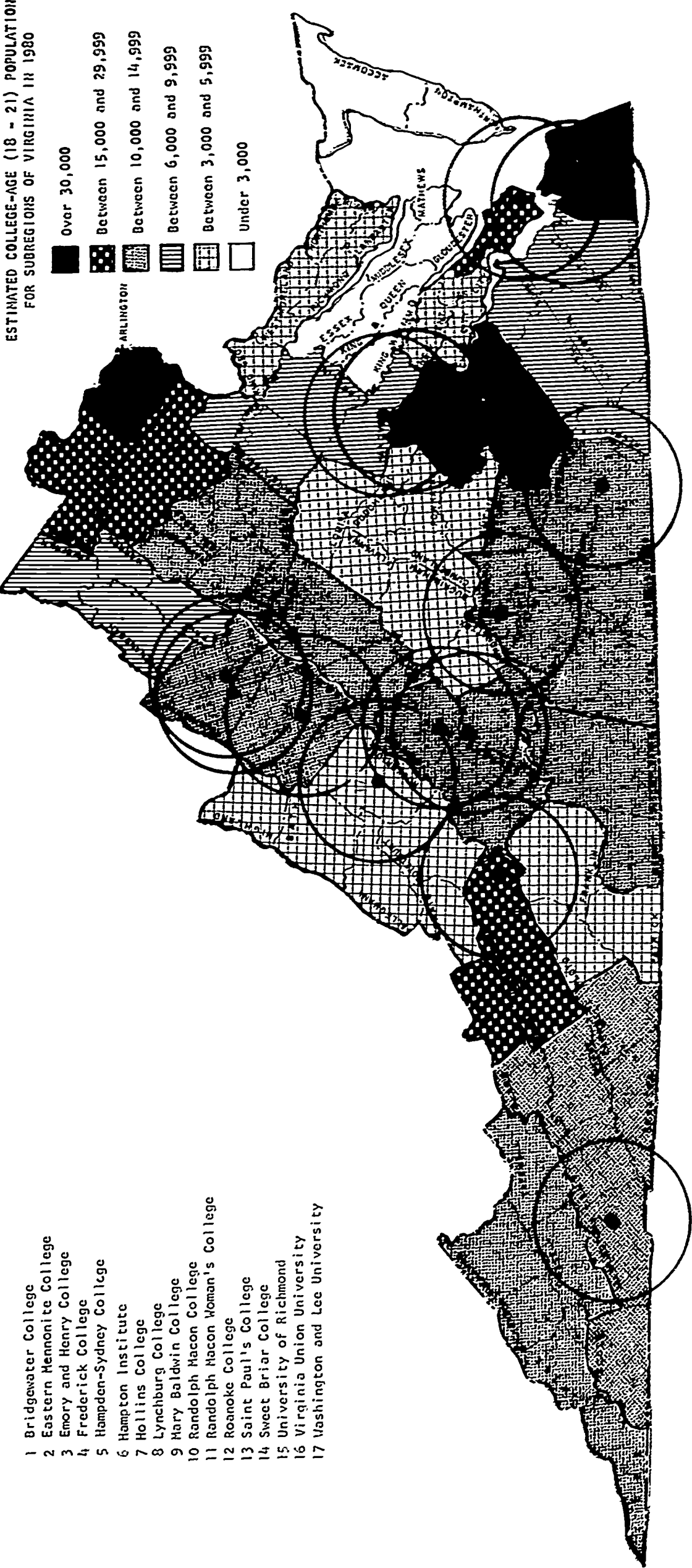
MAP 37
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING FOUR YEAR DEGREES IN LIBERAL ARTS
(PRIVATELY CONTROLLED)

- 1 Bridgewater College
- 2 Eastern Mennonite College
- 3 Emory and Henry College
- 4 Frederick College
- 5 Hampden-Sydney College
- 6 Hampton Institute
- 7 Hollins College
- 8 Lynchburg College
- 9 Mary Baldwin College
- 10 Randolph Macon College
- 11 Randolph Macon Woman's College
- 12 Roanoke College
- 13 Saint Paul's College
- 14 Sweet Briar College
- 15 University of Richmond
- 16 Virginia Union University
- 17 Washington and Lee University



Circles outline service area with radius of 25 miles from institutional location.

MAP 38
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING FOUR YEAR DEGREES IN LIBERAL ARTS
(PRIVATELY CONTROLLED)



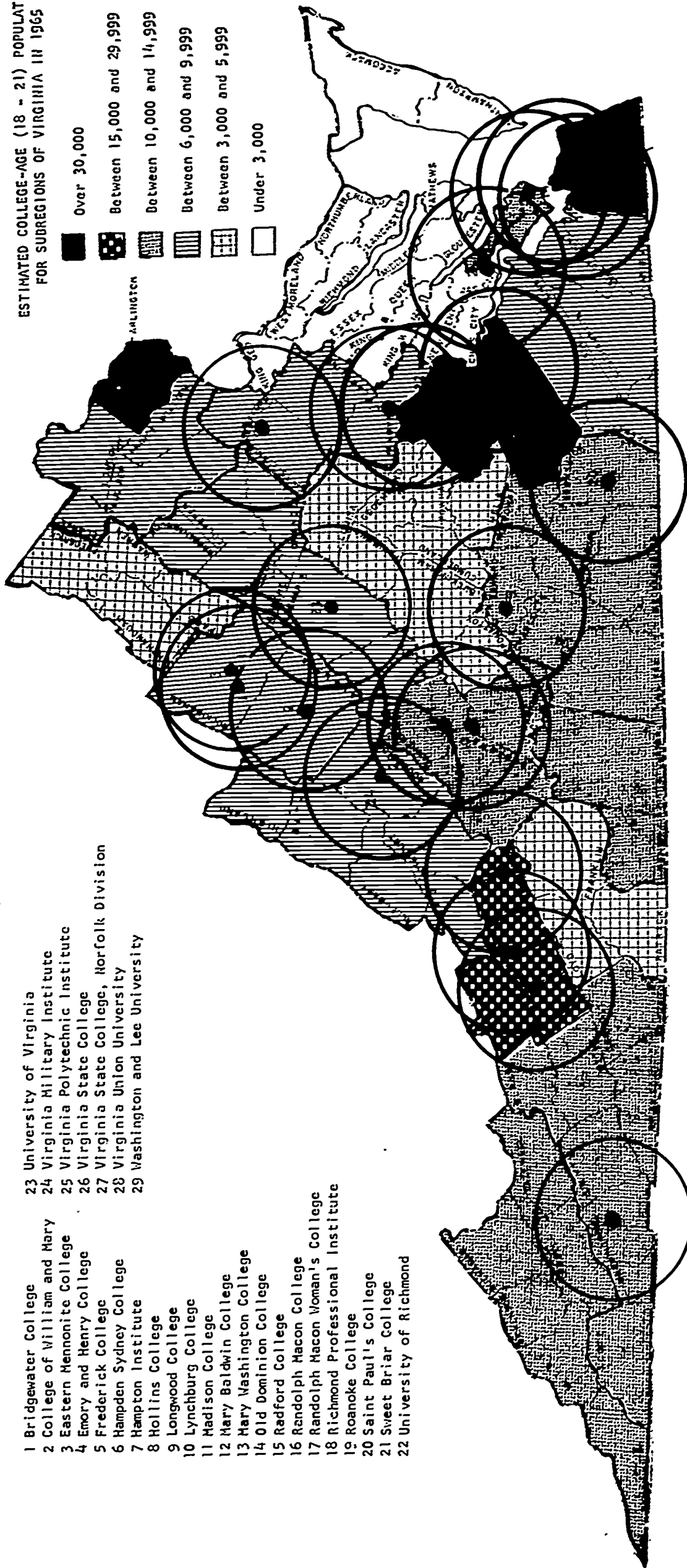
Circles outline service area with radius of 25 miles from institutional location.

MAP 35
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING FOUR YEAR DEGREES IN LIBERAL ARTS
(STATE AND PRIVATELY CONTROLLED)

- | | |
|------------------------------------|---|
| 1 Bridgewater College | 23 University of Virginia |
| 2 College of William and Mary | 24 Virginia Military Institute |
| 3 Eastern Mennonite College | 25 Virginia Polytechnic Institute |
| 4 Emory and Henry College | 26 Virginia State College |
| 5 Frederick College | 27 Virginia State College, Norfolk Division |
| 6 Hampden Sydney College | 28 Virginia Union University |
| 7 Hampton Institute | 29 Washington and Lee University |
| 8 Hollins College | |
| 9 Longwood College | |
| 10 Lynchburg College | |
| 11 Madison College | |
| 12 Mary Baldwin College | |
| 13 Mary Washington College | |
| 14 Old Dominion College | |
| 15 Radford College | |
| 16 Randolph Macon College | |
| 17 Randolph Macon Woman's College | |
| 18 Richmond Professional Institute | |
| 19 Roanoke College | |
| 20 Saint Paul's College | |
| 21 Sweet Briar College | |
| 22 University of Richmond | |

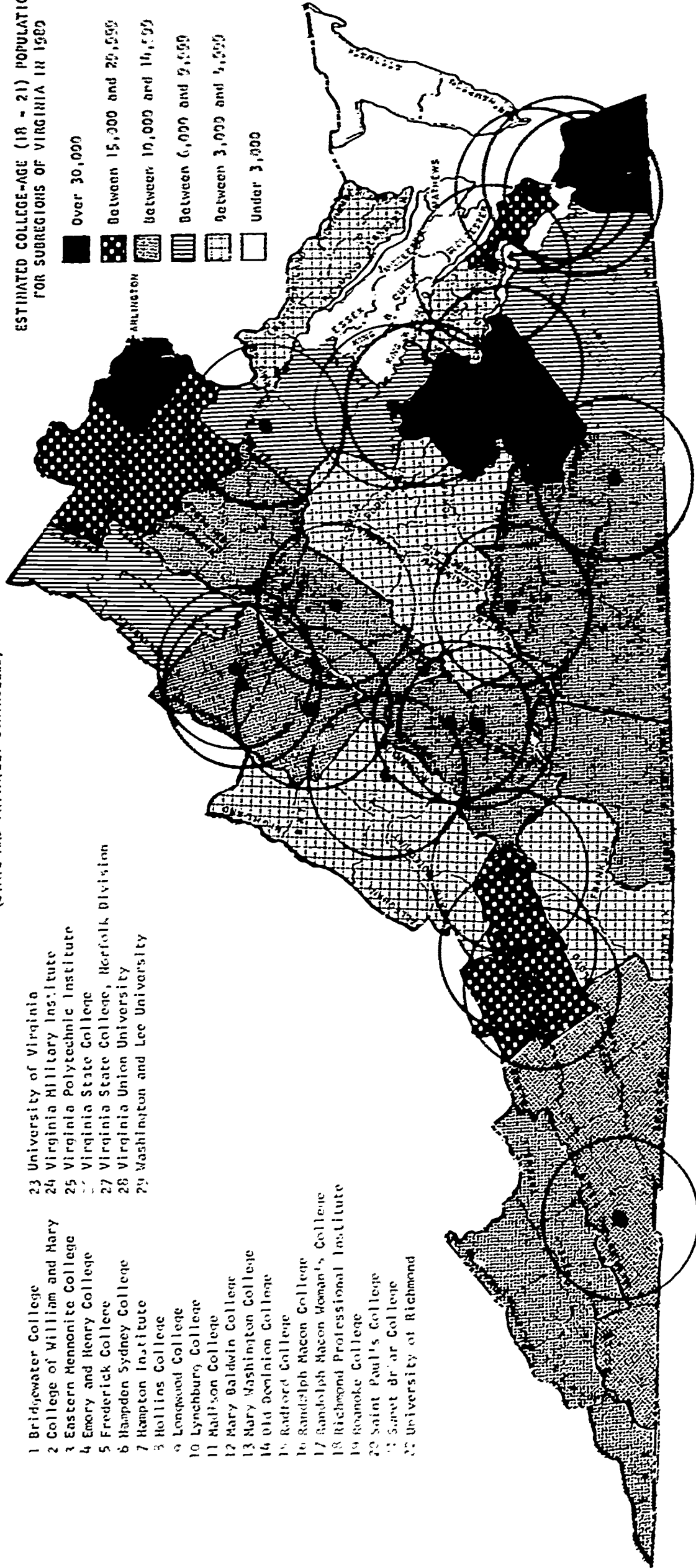
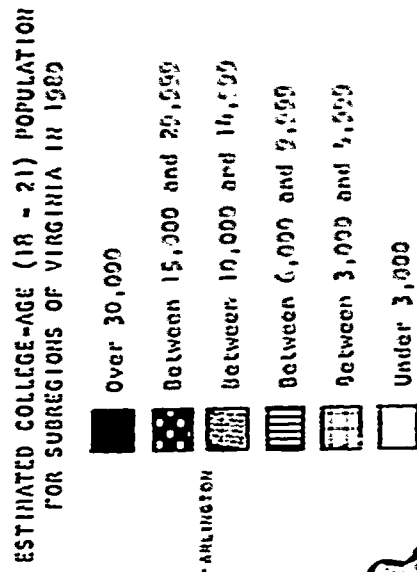
ESTIMATED COLLEGE-AGE (18 - 21) POPULATION
FOR SUBREGIONS OF VIRGINIA IN 1965

| | |
|--|---------------------------|
| | Over 30,000 |
| | Between 15,000 and 29,999 |
| | Between 10,000 and 14,999 |
| | Between 6,000 and 9,999 |
| | Between 3,000 and 5,999 |
| | Under 3,000 |



MAP 40
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING FOUR YEAR DEGREES IN LIBERAL ARTS
(STATE AND PRIVATELY CONTROLLED)

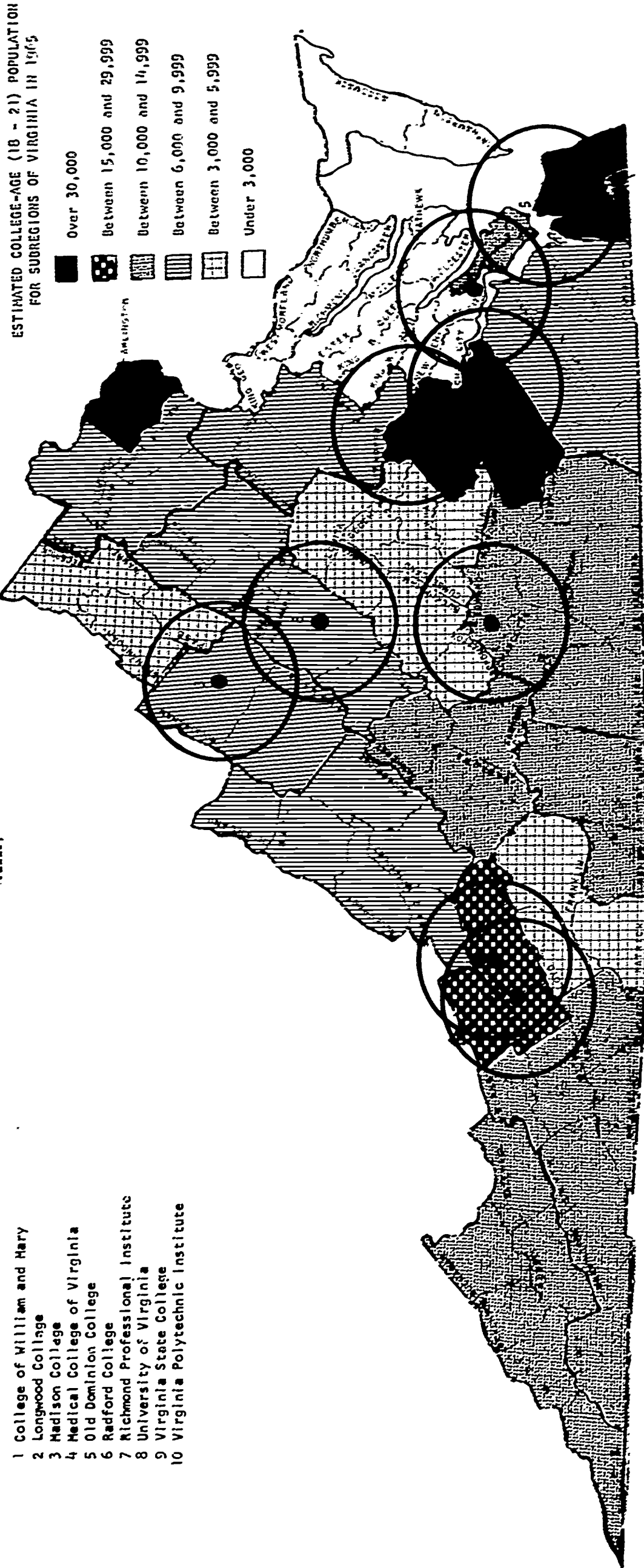
- | | |
|------------------------------------|---|
| 1 Bridgewater College | 23 University of Virginia |
| 2 College of William and Mary | 24 Virginia Military Institute |
| 3 Eastern Mennonite College | 25 Virginia Polytechnic Institute |
| 4 Emory and Henry College | 26 Virginia State College |
| 5 Frederick College | 27 Virginia State College, Norfolk Division |
| 6 Hampton Sydney College | 28 Virginia Union University |
| 7 Hampton Institute | 29 Washington and Lee University |
| 8 Hollins College | |
| 9 Longwood College | |
| 10 Lynchburg College | |
| 11 Madison College | |
| 12 Mary Baldwin College | |
| 13 Mary Washington College | |
| 14 Old Dominion College | |
| 15 Radford College | |
| 16 Randolph Macon College | |
| 17 Randolph Macon Woman's College | |
| 18 Richmond Professional Institute | |
| 19 Roanoke College | |
| 20 Saint Paul's College | |
| 21 Sweet Briar College | |
| 22 University of Richmond | |



Circles outline service area with radius of 25 miles from institutional location.

MAP 41
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING MASTER'S DEGREES
(STATE CONTROLLED)

- 1 College of William and Mary
- 2 Longwood College
- 3 Madison College
- 4 Medical College of Virginia
- 5 Old Dominion College
- 6 Radford College
- 7 Richmond Professional Institute
- 8 University of Virginia
- 9 Virginia State College
- 10 Virginia Polytechnic Institute

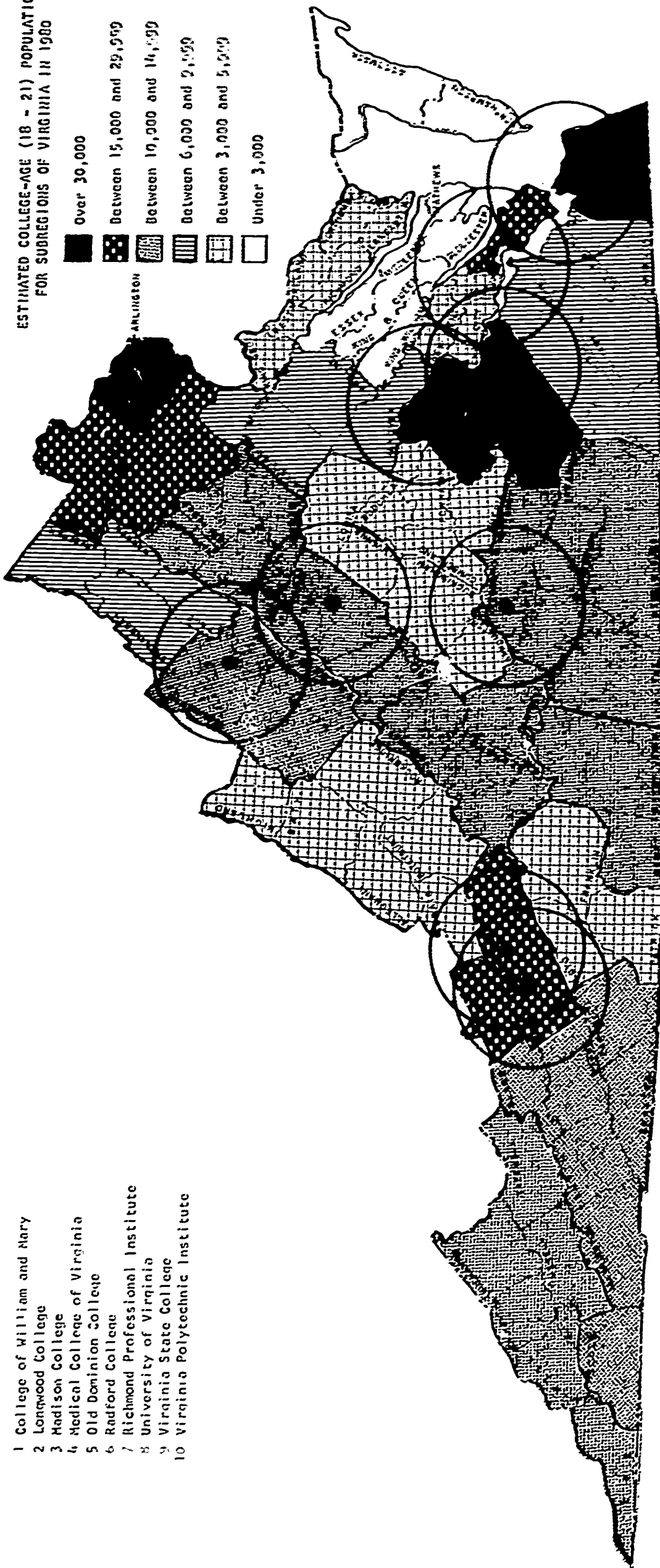


MAP 4.2
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING MASTER'S DEGREES,
(STATE CONTROLLED)

- 1 College of William and Mary
- 2 Longwood College
- 3 Madison College
- 4 Medical College of Virginia
- 5 Old Dominion College
- 6 Radford College
- 7 Richmond Professional Institute
- 8 University of Virginia
- 9 Virginia State College
- 10 Virginia Polytechnic Institute

ESTIMATED COLLEGE-AGE (18 - 21) POPULATION
FOR SUBREGIONS OF VIRGINIA IN 1980

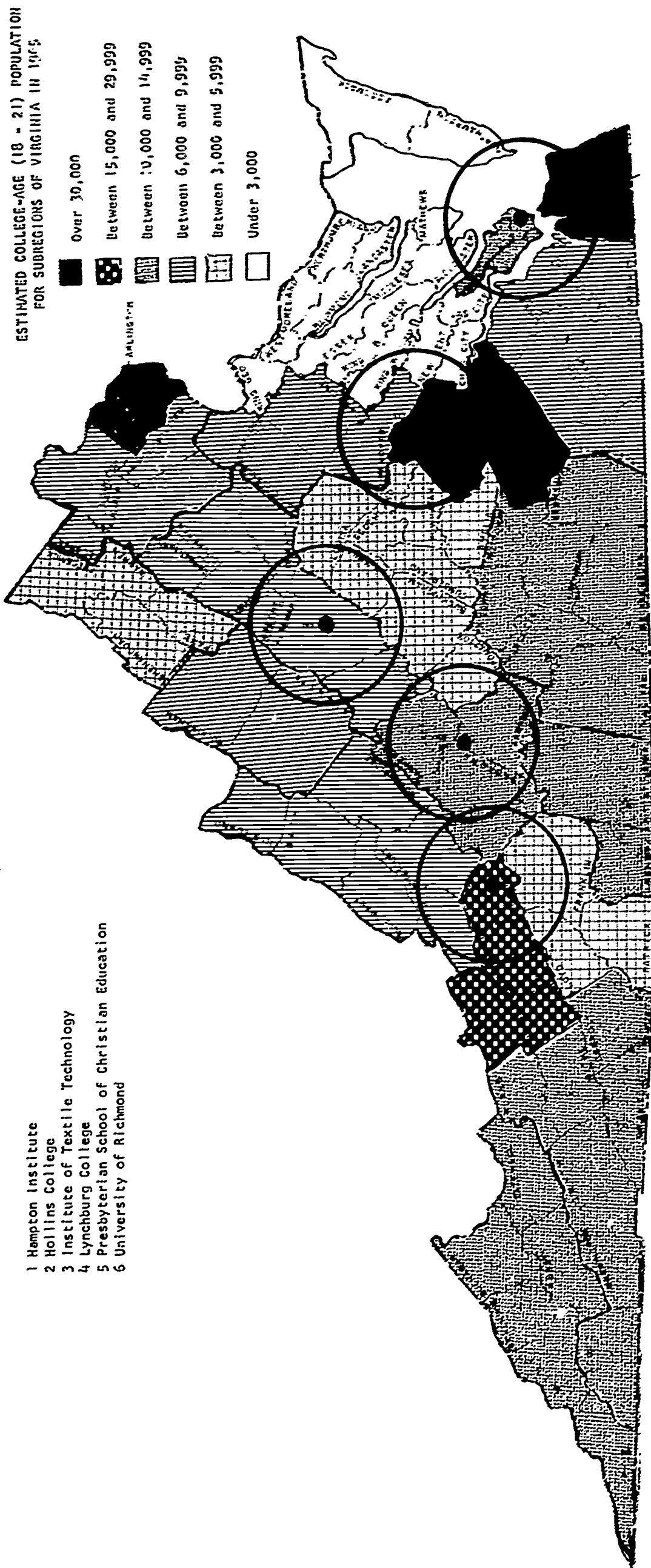
| |
|---------------------------|
| Over 30,000 |
| Between 15,000 and 29,999 |
| Between 10,000 and 14,999 |
| Between 6,000 and 9,999 |
| Between 3,000 and 5,999 |
| Under 3,000 |



Circles outline service area with radius of 25 miles from institutional location.

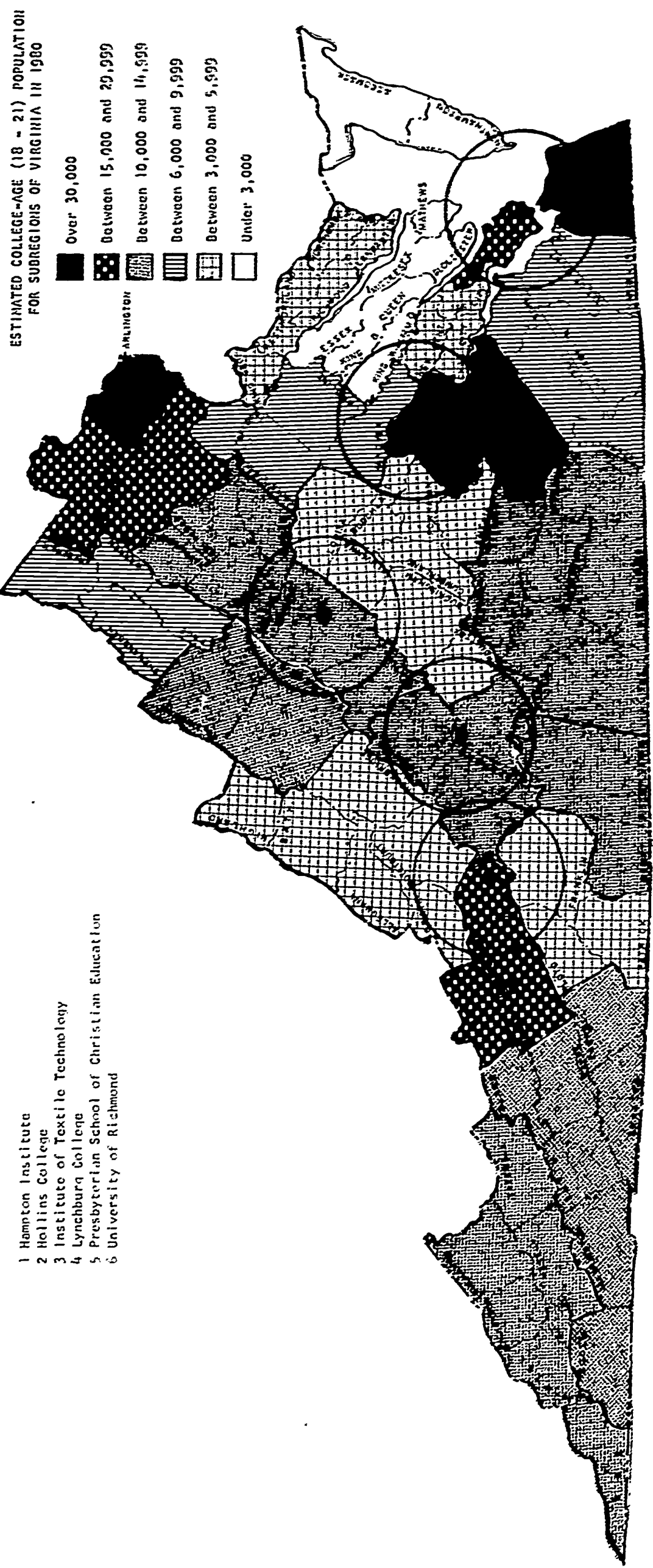
MAP 1/3
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING MASTER'S DEGREES
(PRIVATELY CONTROLLED)

- 1 Hampton Institute
- 2 Hollins College
- 3 Institute of Textile Technology
- 4 Lynchburg College
- 5 Presbyterian School of Christian Education
- 6 University of Richmond



MAP 44
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING MASTER'S DEGREE,
(PRIVATELY CONTROLLED)

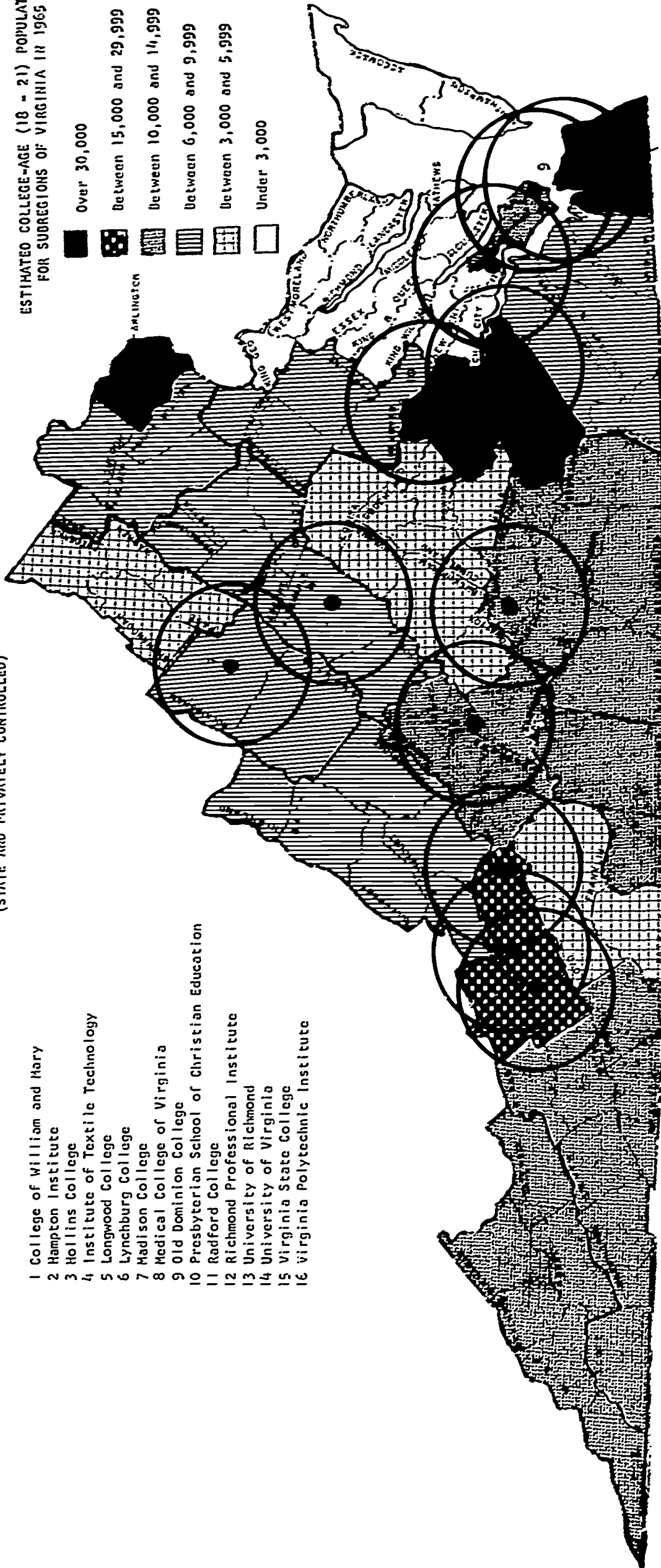
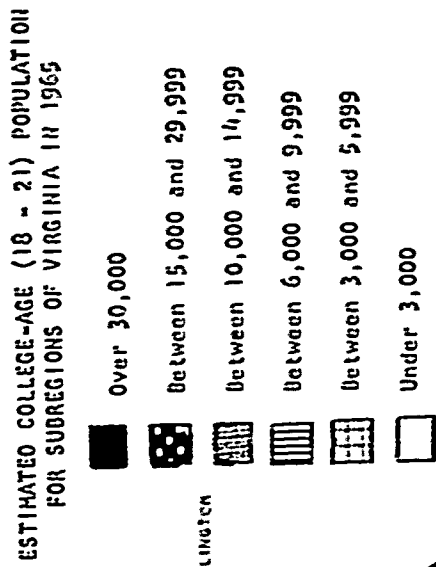
- 1 Hampton Institute
- 2 Hollins College
- 3 Institute of Textile Technology
- 4 Lynchburg College
- 5 Presbyterian School of Christian Education
- 6 University of Richmond



Circles outline service area with radius of 25 miles from institutional location.

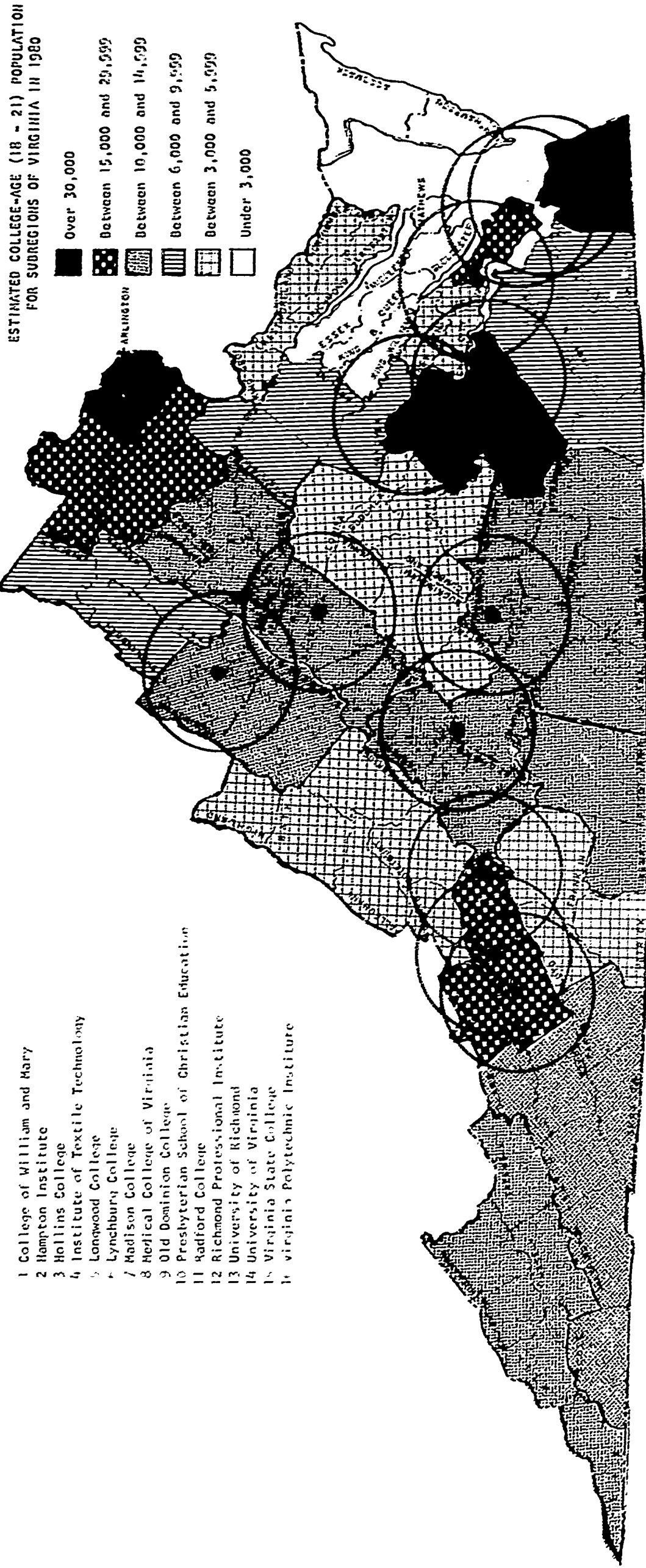
MAP 45
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING MASTER'S DEGREES
(STATE AND PRIVATELY CONTROLLED)

- 1 College of William and Mary
- 2 Hampton Institute
- 3 Hollins College
- 4 Institute of Textile Technology
- 5 Longwood College
- 6 Lynchburg College
- 7 Madison College
- 8 Medical College of Virginia
- 9 Old Dominion College
- 10 Presbyterian School of Christian Education
- 11 Radford College
- 12 Richmond Professional Institute
- 13 University of Richmond
- 14 University of Virginia
- 15 Virginia State College
- 16 Virginia Polytechnic Institute



MAP 46
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING MASTER'S DEGREES
(STATE AND PRIVATELY CONTROLLED)

- 1 College of William and Mary
- 2 Hampton Institute
- 3 Hollins College
- 4 Institute of Textile Technology
- 5 Longwood College
- 6 Lynchburg College
- 7 Madison College
- 8 Medical College of Virginia
- 9 Old Dominion College
- 10 Presbyterian School of Christian Education
- 11 Radford College
- 12 Richmond Professional Institute
- 13 University of Richmond
- 14 University of Virginia
- 15 Virginia State College
- 16 Virginia Polytechnic Institute

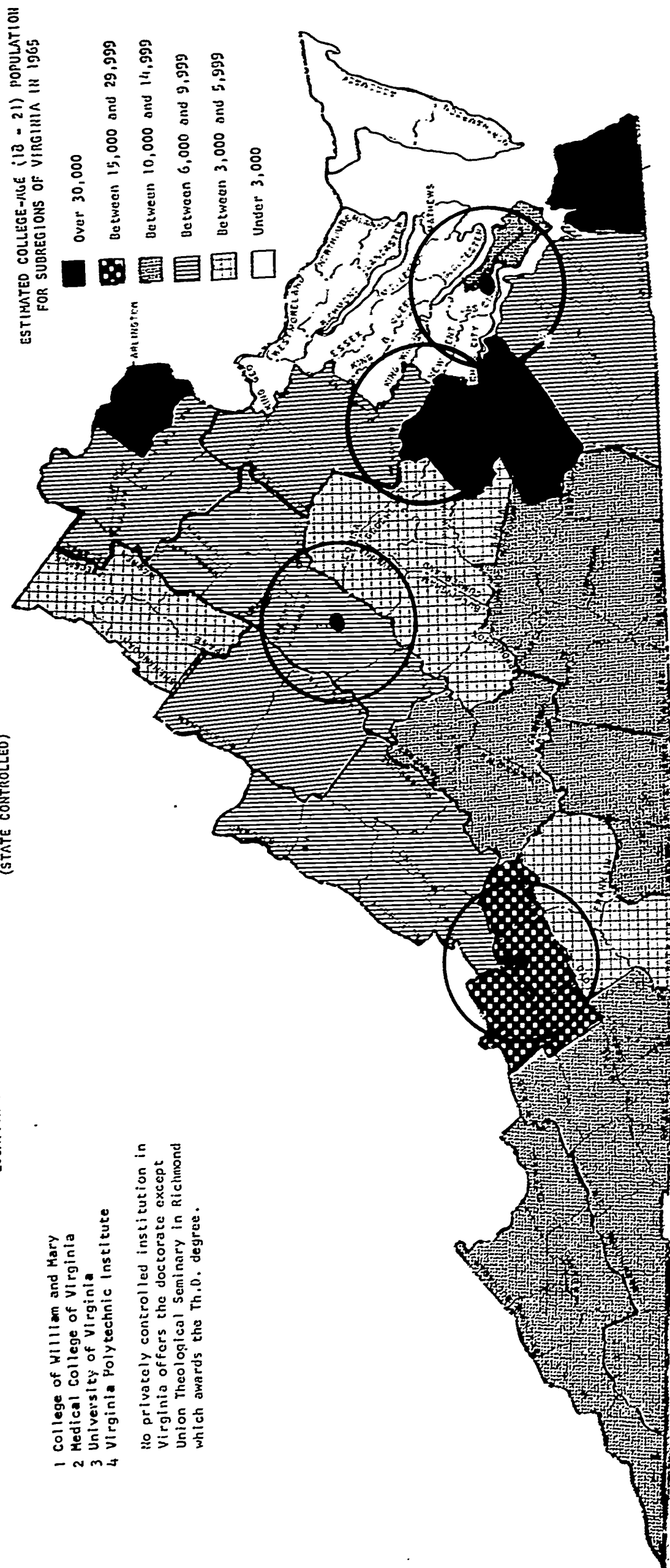


Circles outline service area with radius of 20 miles from institutional location.

MAP 47
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING PH.D. DEGREES, ED.D. DEGREES, ETC.
(STATE CONTROLLED)

- 1 College of William and Mary
- 2 Medical College of Virginia
- 3 University of Virginia
- 4 Virginia Polytechnic Institute

No privately controlled institution in Virginia offers the doctorate except Union Theological Seminary in Richmond which awards the Th.D. degree.

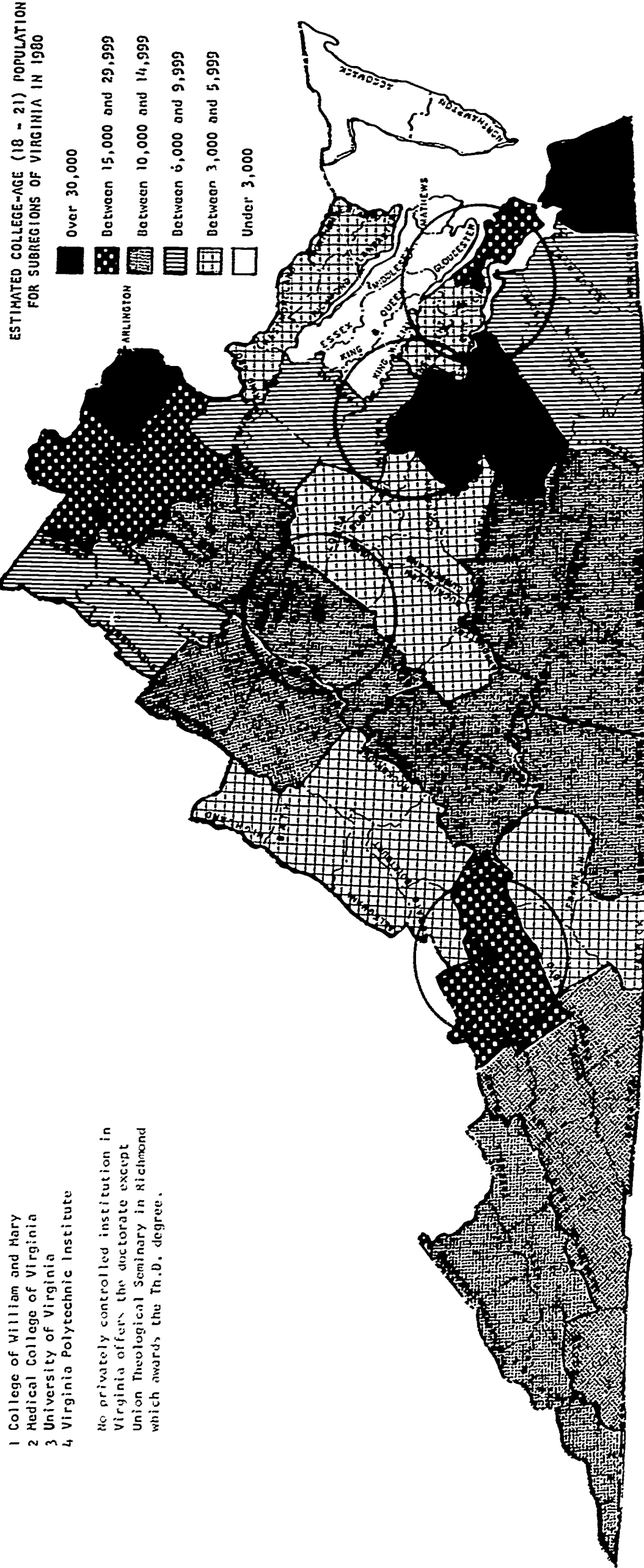


Circles outline service area with radius of 25 miles from institutional location.

MAP 48
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING PH.D. DEGREES, ED.D. DEGREES, ETC.
(STATE CONTROLLED)

- 1 College of William and Mary
- 2 Medical College of Virginia
- 3 University of Virginia
- 4 Virginia Polytechnic Institute

No privately controlled institution in Virginia offers the doctorate except Union Theological Seminary in Richmond which awards the Th.D. degree.

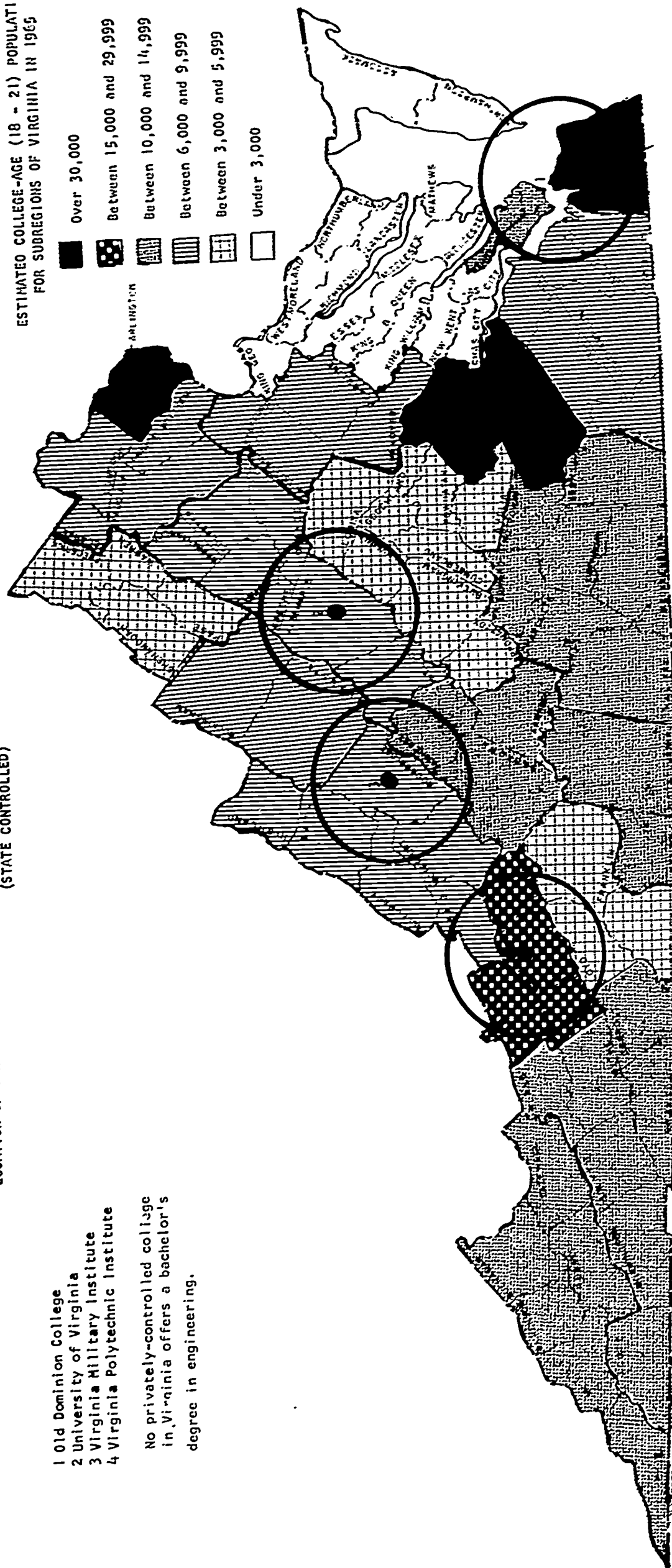
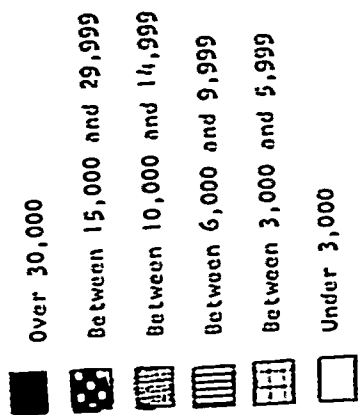


Circles outline service area with radius of 25 miles from institutional location.

- 1 Old Dominion College
- 2 University of Virginia
- 3 Virginia Military Institute
- 4 Virginia Polytechnic Institute

No privately-controlled college in Virginia offers a bachelor's degree in engineering.

ESTIMATED COLLEGE-AGE (18 - 21) POPULATION
FOR SUBREGIONS OF VIRGINIA IN 1965

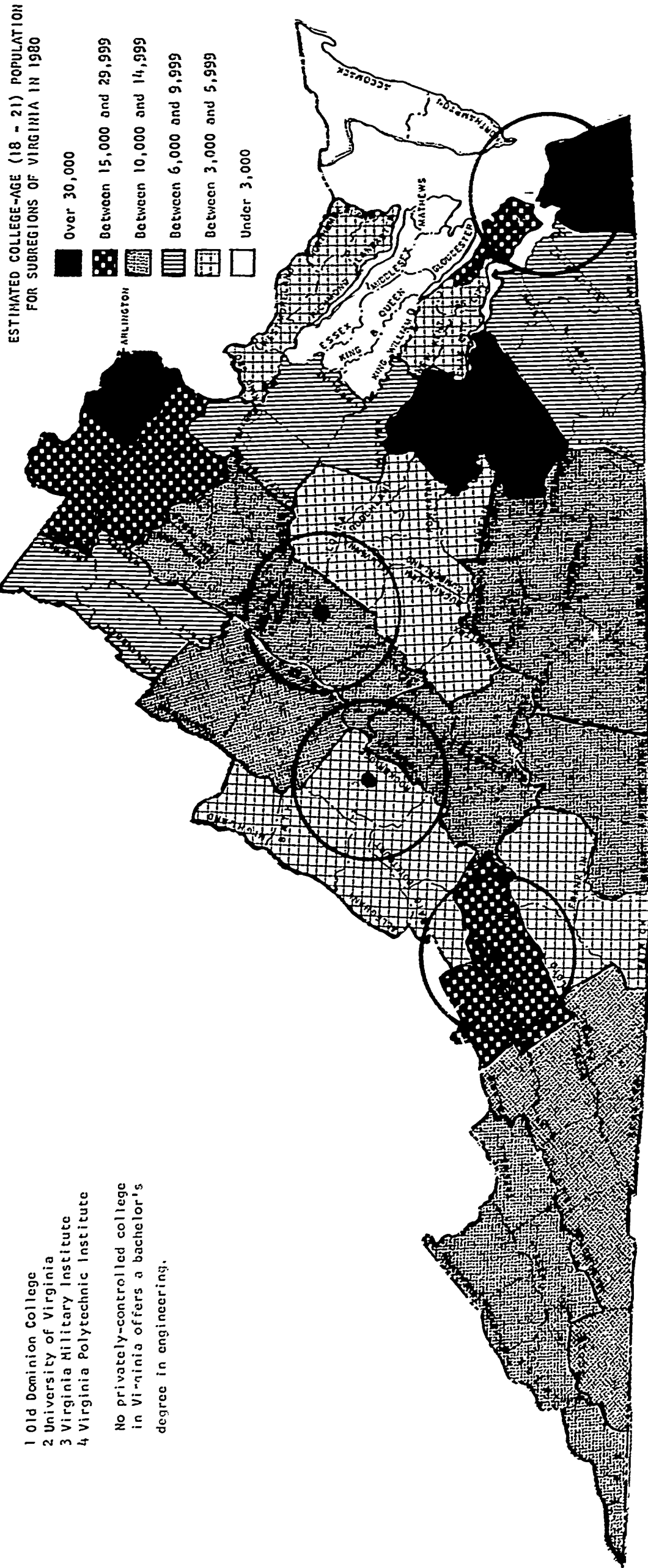


Circles outline service area with radius of 25 miles from institutional location.

MAP 50
LOCATION OF VIRGINIA INSTITUTIONS OFFERING HIGHER EDUCATION OFFERING BACHELOR'S DEGREES IN ENGINEERING
(STATE CONTROLLED)

- 1 Old Dominion College
- 2 University of Virginia
- 3 Virginia Military Institute
- 4 Virginia Polytechnic Institute

No privately-controlled college
in Virginia offers a bachelor's
degree in engineering.



Circles outline service area with radius of 25 miles from institutional location.

MAP 51

1 College cf William and Mary

2 Longwood College

3 Madison College

4 Mary Washington College

St. Olaf Dominion College

6 Radford College

7 Richmond Professional Institute

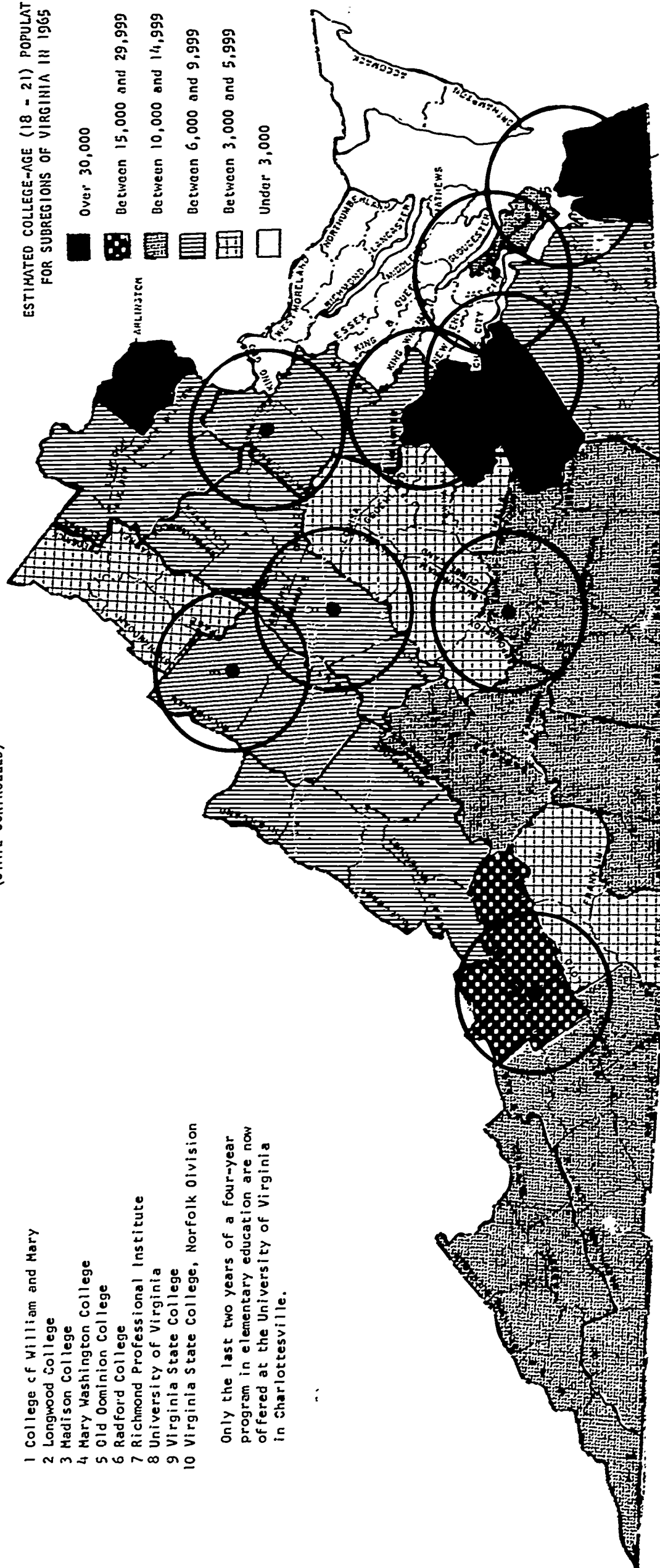
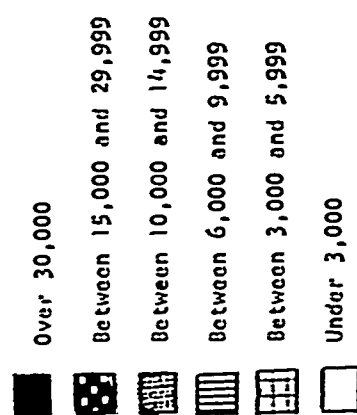
8 University of Virginia

9 Virginia State College

10 Virginia State College, Norfolk Division

Only the last two years of a four-year program in elementary education are now offered at the University of Virginia in Charlottesville.

ESTIMATED COLLEGE-AGE (18 - 21) POPULATION
FOR SUBREGIONS OF VIRGINIA IN 1965

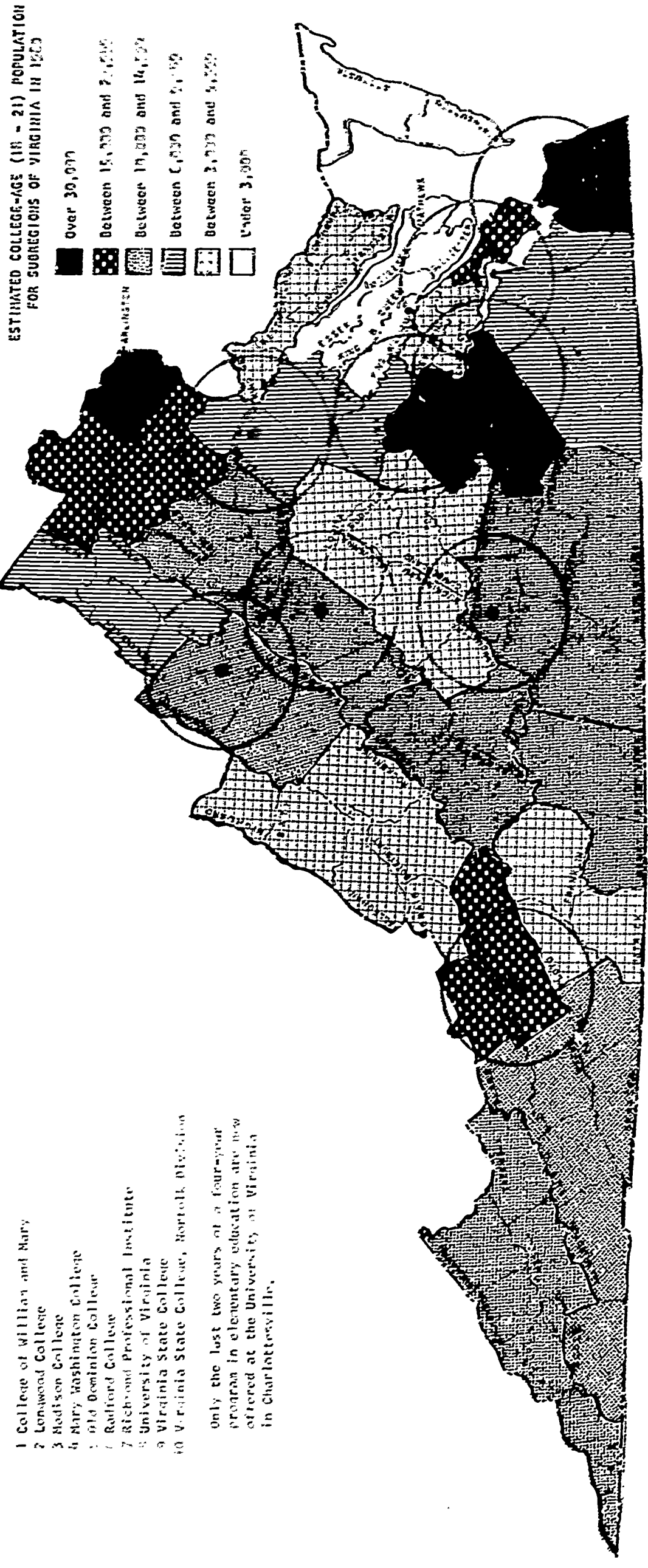


Circles outline service area with radius of 25 miles from institutional location.

12)

MAP 6
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING FOUR YEAR PROGRAMS IN ELEMENTARY EDUCATION (STATE CONTROLLED)

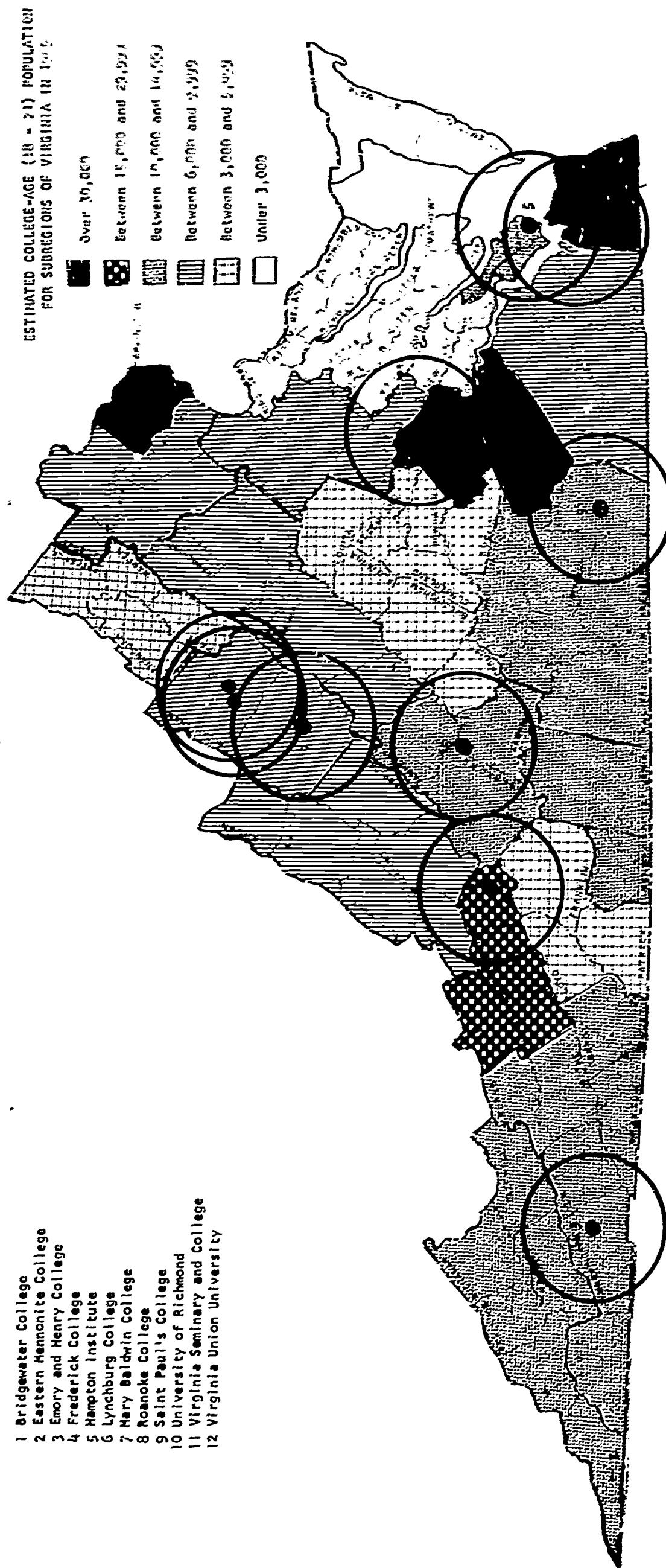
- 1 College of William and Mary
 - 2 Longwood College
 - 3 Madison College
 - 4 Mary Washington College
 - 5 Old Dominion College
 - 6 Radford College
 - 7 Richmond Professional Institute
 - 8 University of Virginia
 - 9 Virginia State College
 - 10 Virginia State College, Norfolk Division
- Only the last two years of a four-year program in elementary education are now offered at the University of Virginia in Charlottesville.



Circles outline service area with radius of 20 miles from institutional location.

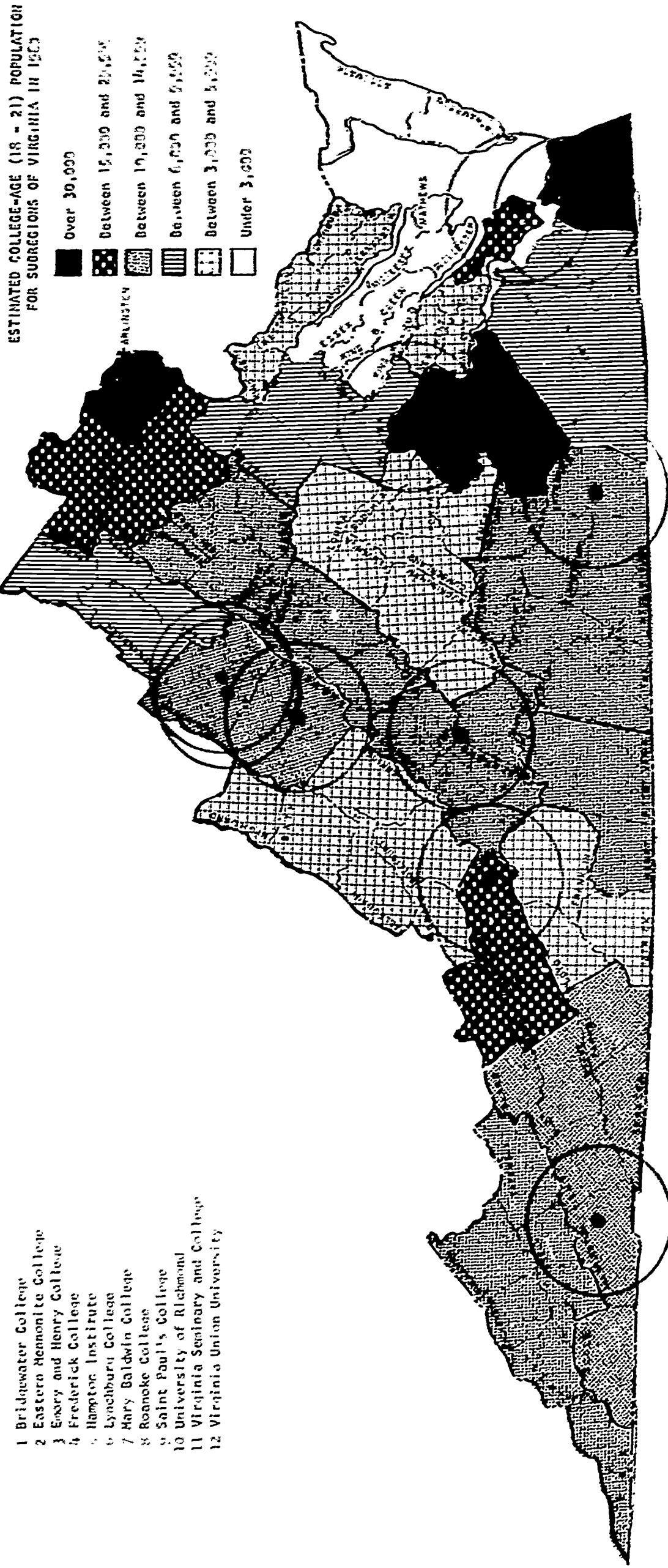
MAP 53
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING FOUR YEAR PROGRAMS IN ELEMENTARY EDUCATION FOR WOMEN
(PRIVATELY CONTROLLED)

- 1 Bridgewater College
- 2 Eastern Mennonite College
- 3 Emory and Henry College
- 4 Frederick College
- 5 Hampton Institute
- 6 Lynchburg College
- 7 Mary Baldwin College
- 8 Roanoke College
- 9 Saint Paul's College
- 10 University of Richmond
- 11 Virginia Seminary and College
- 12 Virginia Union University



MAP 14
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING FOUR YEAR PROGRAMS IN ELEMENTARY EDUCATION FOR 1967
(PRIVATELY CONTROLLED)

- 1 Bridgewater College
- 2 Eastern Mennonite College
- 3 Emory and Henry College
- 4 Frederick College
- 5 Hampton Institute
- 6 Lynchburg College
- 7 Mary Baldwin College
- 8 Roanoke College
- 9 Saint Paul's College
- 10 University of Richmond
- 11 Virginia Seminary and College
- 12 Virginia Union University

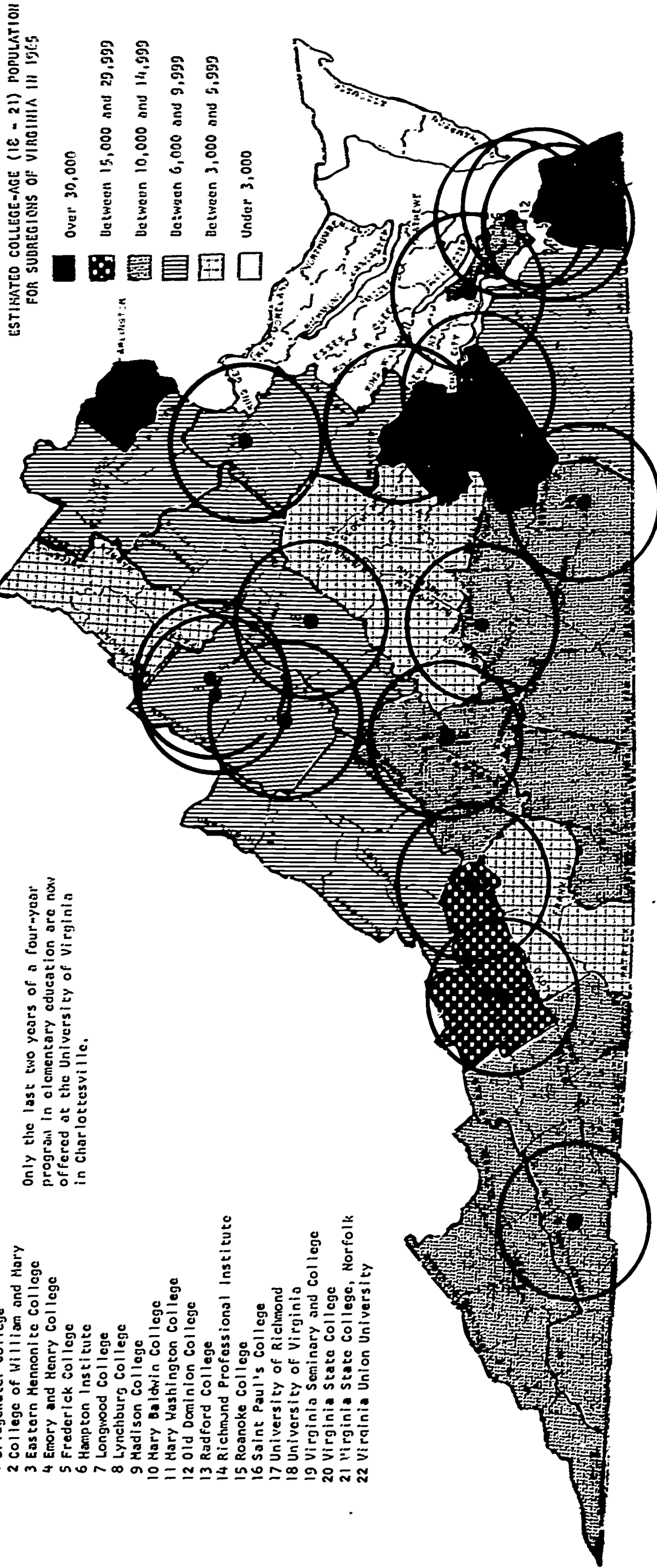


Circles outline service area with radius of 20 miles from institutional location.

MAP 55
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING FOUR YEAR PROGRAMS IN ELEMENTARY EDUCATION FOR WOMEN
(STATE AND PRIVATELY CONTROLLED)

- 1 Bridgewater College
- 2 College of William and Mary
- 3 Eastern Mennonite College
- 4 Emory and Henry College
- 5 Frederick College
- 6 Hampton Institute
- 7 Longwood College
- 8 Lynchburg College
- 9 Madison College
- 10 Mary Baldwin College
- 11 Mary Washington College
- 12 Old Dominion College
- 13 Radford College
- 14 Richmond Professional Institute
- 15 Roanoke College
- 16 Saint Paul's College
- 17 University of Richmond
- 18 University of Virginia
- 19 Virginia Seminary and College
- 20 Virginia State College
- 21 Virginia State College, Norfolk
- 22 Virginia Union University

Only the last two years of a four-year program in elementary education are now offered at the University of Virginia in Charlottesville.



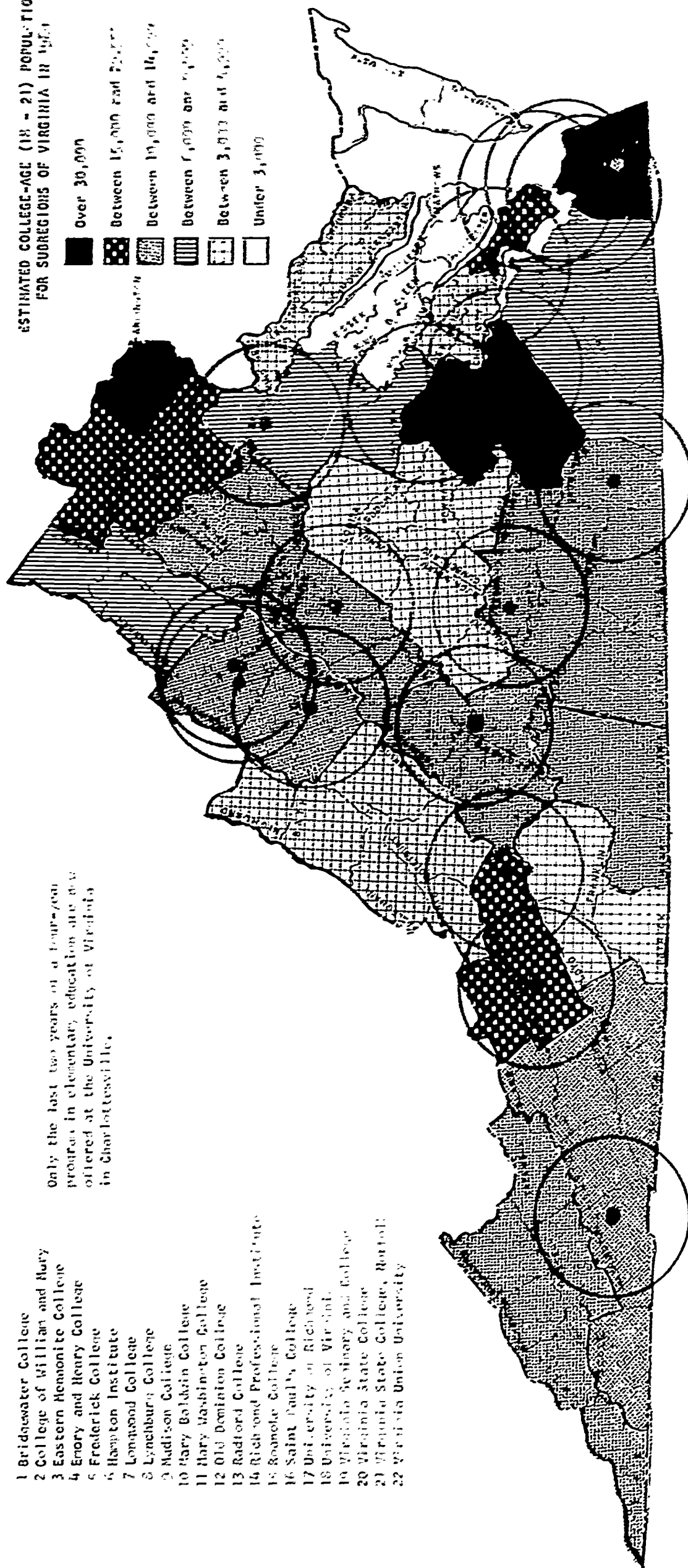
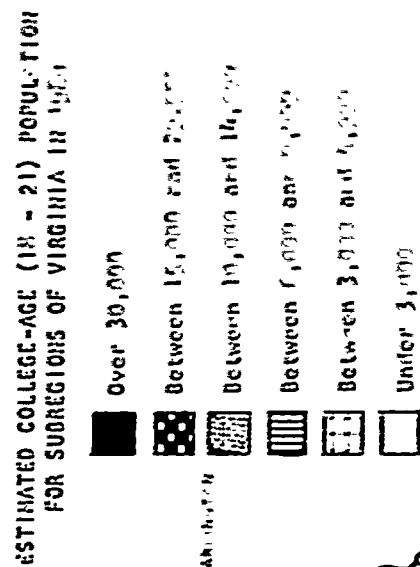
Circles outline service area with radius of 25 miles from institutional location.

MAP 50

LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING FOUR YEAR PROGRAMS IN LIBRARY EDUCATION FOR 1964
(STATE AND PRIVATELY CONTROLLED)

- 1 Bridgewater College
- 2 College of William and Mary
- 3 Eastern Mennonite College
- 4 Emory and Henry College
- 5 Frederick College
- 6 Hampton Institute
- 7 Longwood College
- 8 Lynchburg College
- 9 Madison College
- 10 Mary Baldwin College
- 11 Mary Washington College
- 12 Old Dominion College
- 13 Radford College
- 14 Richmond Professional Institute
- 15 Roanoke College
- 16 Saint Paul's College
- 17 University of Richmond
- 18 University of Virginia
- 19 Virginia Wesleyan College
- 20 Virginia State College
- 21 Virginia State College, Norfolk
- 22 Virginia Union University

Only the last two years of a four-year program in elementary education are now offered at the University of Virginia in Charlottesville.



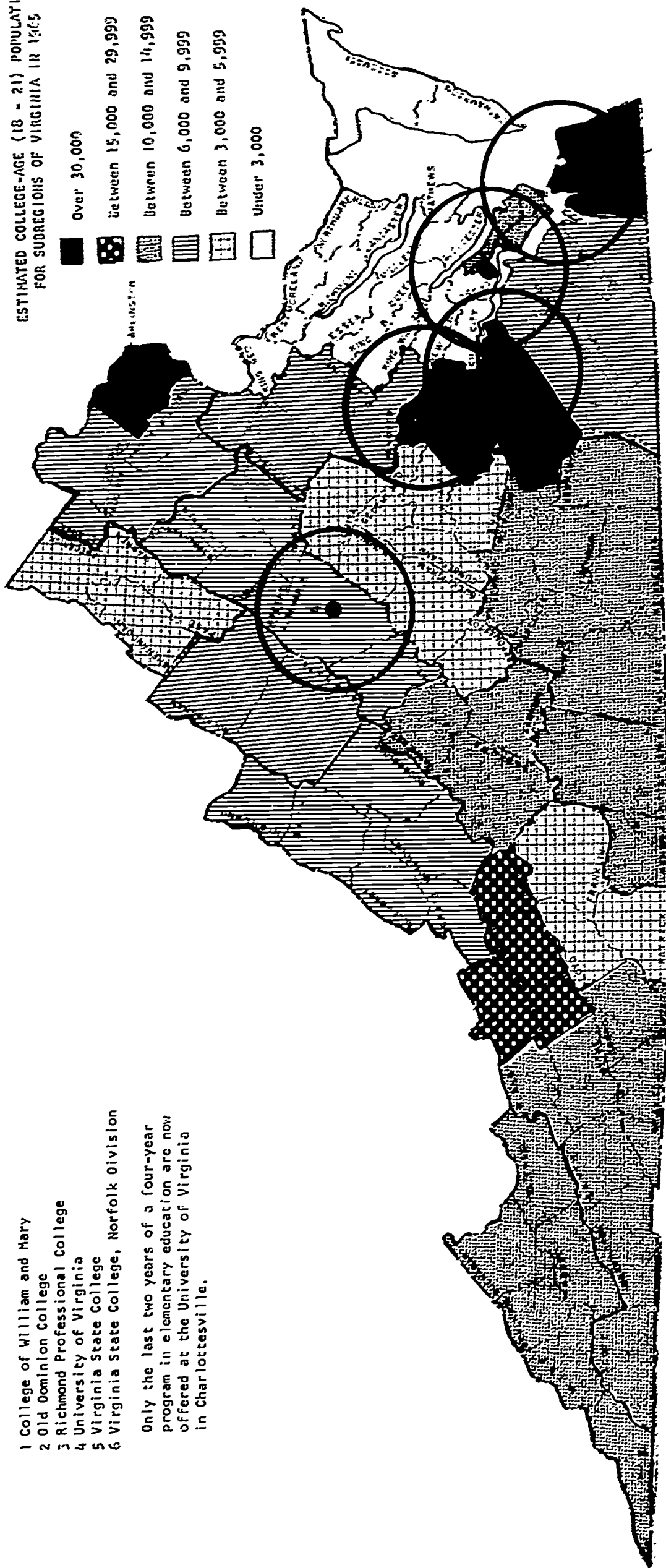
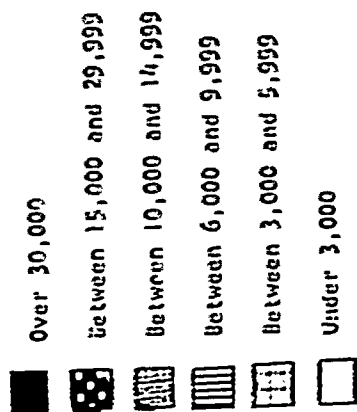
Circles outline service area with radius of 20 miles from institutional location.

WAP 57

- 1 College of William and Mary
2 Old Dominion College
3 Richmond Professional College
4 University of Virginia
5 Virginia State College
6 Virginia State College, Norfolk Division

Only the last two years of a four-year program in elementary education are now offered at the University of Virginia in Charlottesville.

ESTIMATED COLLEGE-AGE (18 - 21) POPULATION
FOR SUBREGIONS OF VIRGINIA IN 1965



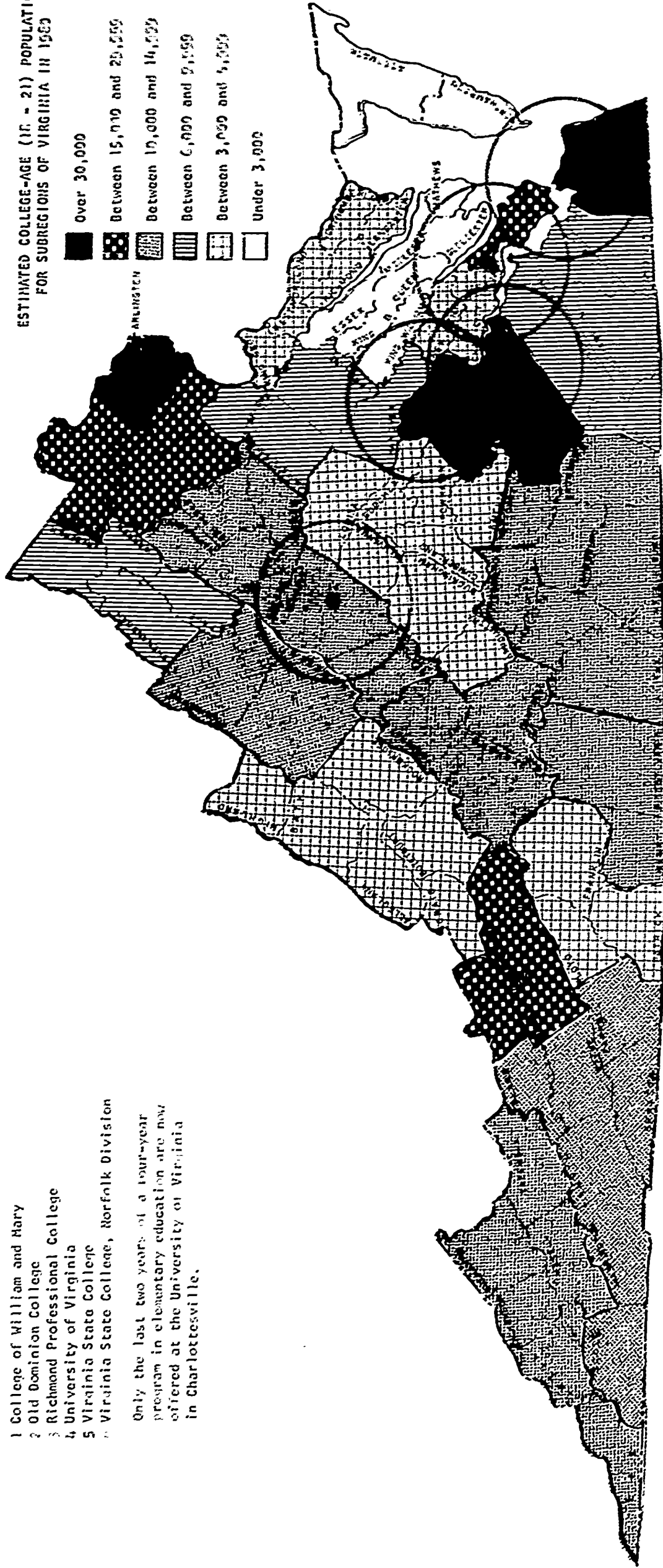
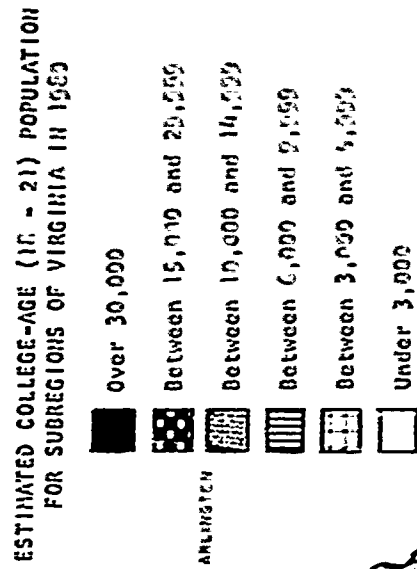
Circles outline service area with radius of 25 miles from institutional location.

RVP 68

LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING FOUR YEAR PROGRAMS IN ELEMENTARY EDUCATION FOR M.A.
(STATE CONTROLLED)

- 1 College of William and Mary
- 2 Old Dominion College
- 3 Richmond Professional College
- 4 University of Virginia
- 5 Virginia State College
- 6 Virginia State College, Norfolk Division

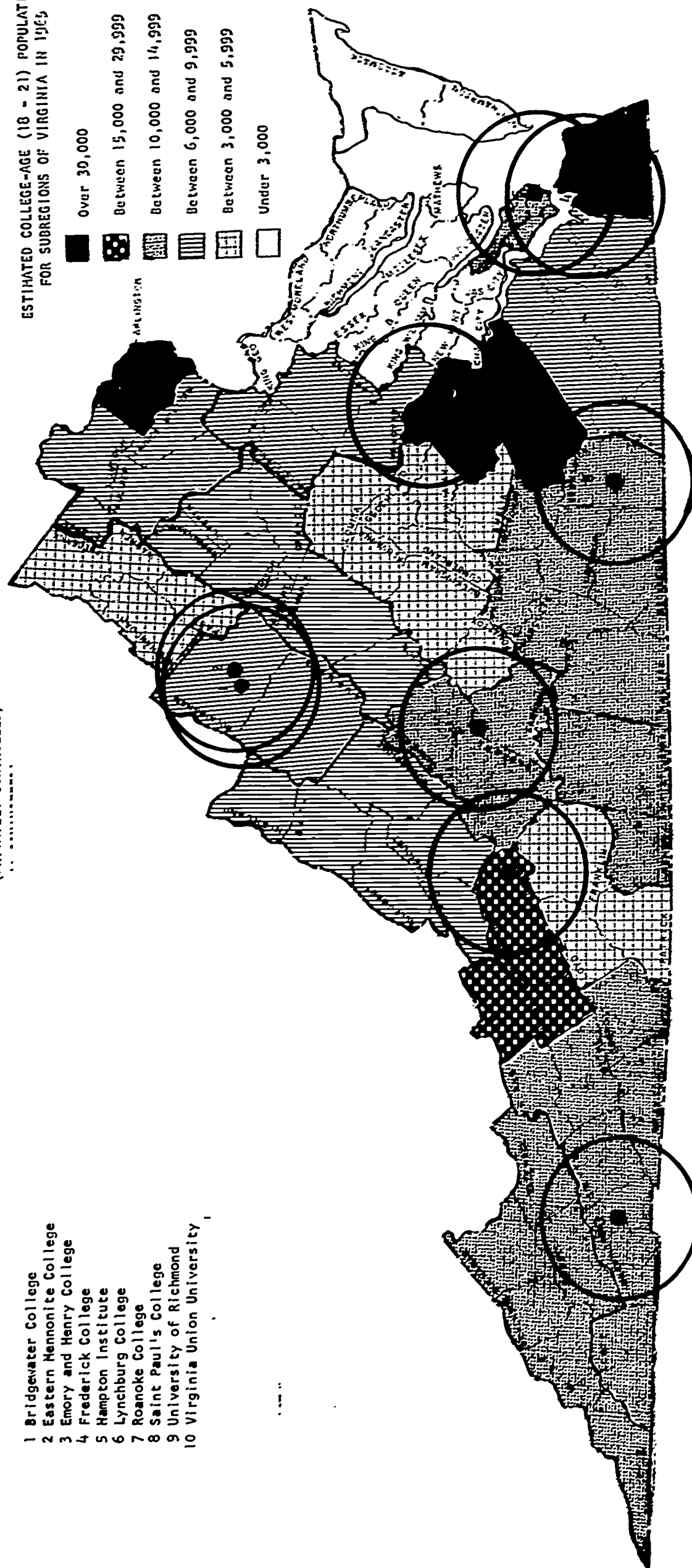
Only the last two years of a four-year program in elementary education are now offered at the University of Virginia in Charlottesville.



Circles outline service area with radius of 20 miles from institutional location.

- 1 Bridgewater College
- 2 Eastern Mennonite College
- 3 Emory and Henry College
- 4 Frederick College
- 5 Hampton Institute
- 6 Lynchburg College
- 7 Roanoke College
- 8 Saint Paul's College
- 9 University of Richmond
- 10 Virginia Union University

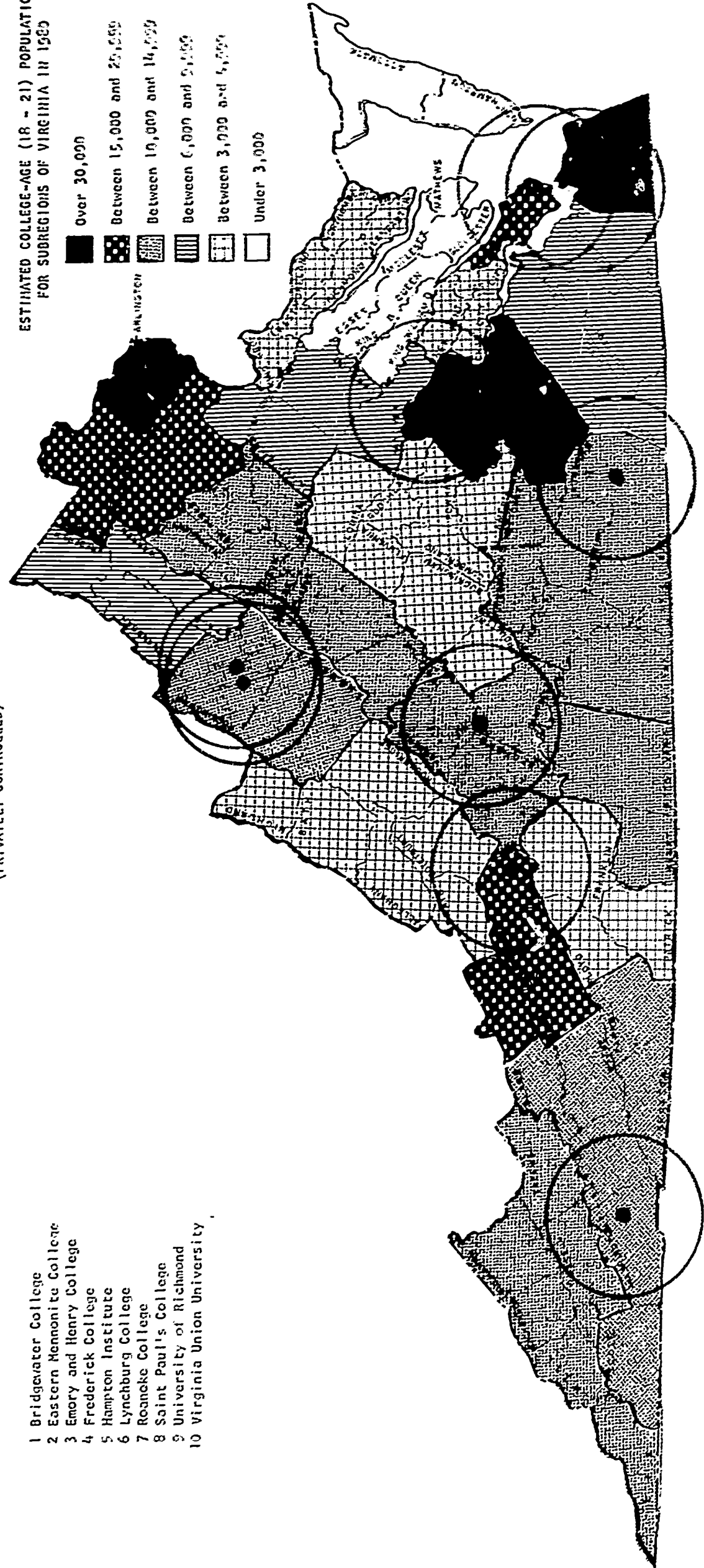
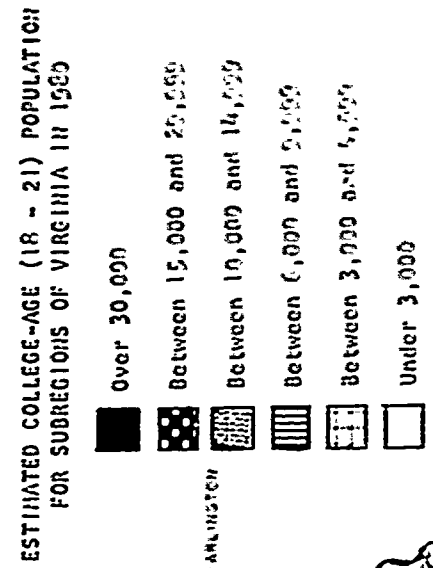
ESTIMATED COLLEGE-AGE (18 - 21) POPULATION
FOR SUBREGIONS OF VIRGINIA IN 1965



Circles outline service area with radius of 25 miles from institutional location.

MAP 64
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING FOUR YEAR PROGRAMS IN ELEMENTARY EDUCATION FOR HIGH
(PRIVATELY CONTROLLED)

- 1 Bridgewater College
- 2 Eastern Mennonite College
- 3 Emory and Henry College
- 4 Frederick College
- 5 Hampton Institute
- 6 Lynchburg College
- 7 Roanoke College
- 8 Saint Paul's College
- 9 University of Richmond
- 10 Virginia Union University

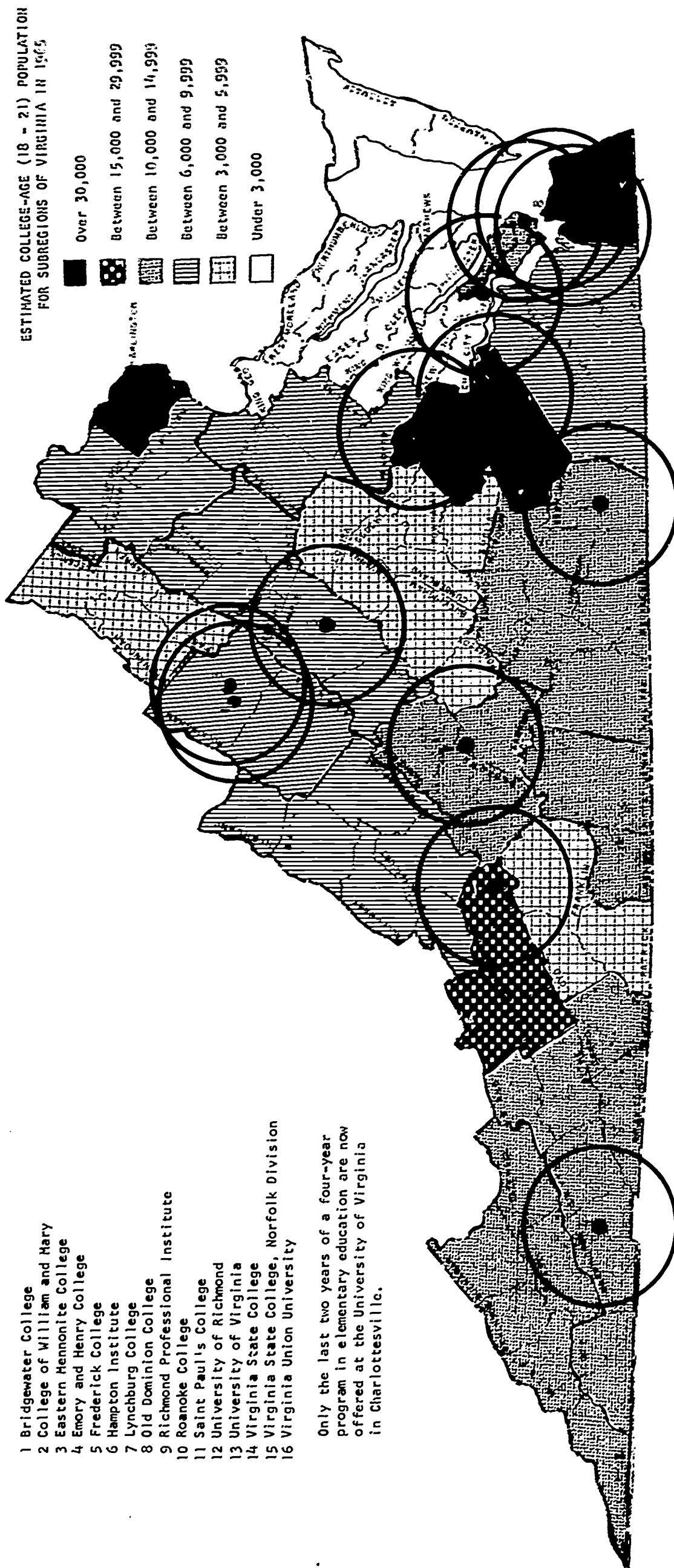


Circles outline service area with radius of 20 miles from institutional location.

MAP 61
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING FOUR YEAR PROGRAMS IN ELEMENTARY EDUCATION FOR MEN
(STATE AND PRIVATELY CONTROLLED)

- 1 Bridgewater College
- 2 College of William and Mary
- 3 Eastern Mennonite College
- 4 Emory and Henry College
- 5 Frederick College
- 6 Hampton Institute
- 7 Lynchburg College
- 8 Old Dominion College
- 9 Richmond Professional Institute
- 10 Roanoke College
- 11 Saint Paul's College
- 12 University of Richmond
- 13 University of Virginia
- 14 Virginia State College
- 15 Virginia State College, Norfolk Division
- 16 Virginia Union University

Only the last two years of a four-year program in elementary education are now offered at the University of Virginia in Charlottesville.

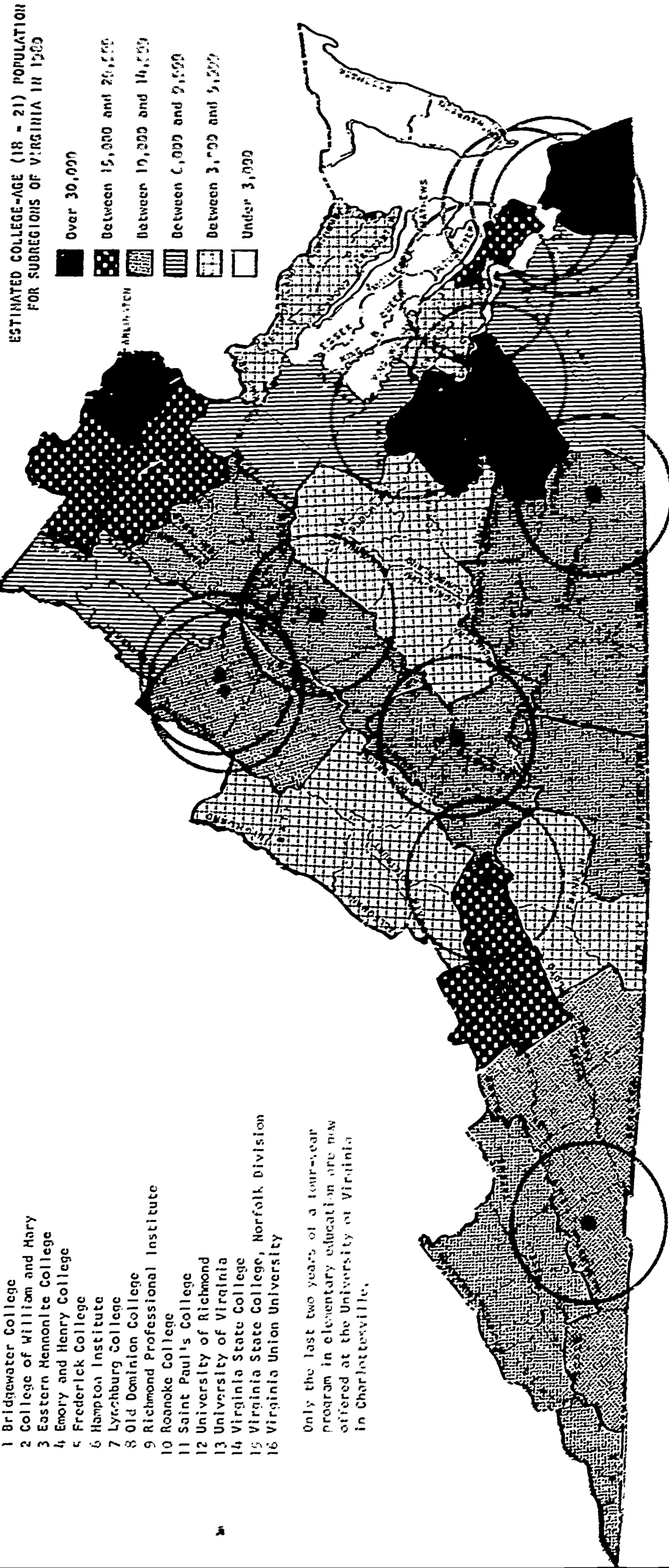


Circles outline service area with radius of 25 miles from institutional location.

MAP 6.2
LOCATION OF VIRGINIA INSTITUTIONS OF HIGHER EDUCATION OFFERING FOUR YEAR PROGRAMS IN ELEMENTARY EDUCATION FOR MEN
(STATE AND PRIVATELY CONTROLLED)

- 1 Bridgewater College
- 2 College of William and Mary
- 3 Eastern Mennonite College
- 4 Emory and Henry College
- 5 Frederick College
- 6 Hampton Institute
- 7 Lynchburg College
- 8 Old Dominion College
- 9 Richmond Professional Institute
- 10 Roanoke College
- 11 Saint Paul's College
- 12 University of Richmond
- 13 University of Virginia
- 14 Virginia State College
- 15 Virginia State College, Norfolk Division
- 16 Virginia Union University

Only the last two years of a four-year program in elementary education are now offered at the University of Virginia in Charlottesville.



Circles outline service area with radius of 25 miles from institutional location.